www.WhitakerBrothers.com

The Challenge Machinery Company provides owner's manuals on its products solely as a courtesy to its customers. See the information below before using this manual.

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Products may be unsupported by The Challenge Machinery Company due to age or the unavailability of parts from their original manufacturer. No parts or product support will be available to repair or maintain unsupported products. Older products may not be UL listed (if the product does not have a UL label it is not a listed product), and may not comply with applicable installation or other regulations or requirements if relocated to a new facility. Many municipalities require a product to be UL listed before an electrician will connect power to them. Often the cost of updating an older product to comply with current safety regulations is greater than the value of the product.

Serial Numbers 961533 & Up

INSTRUCTION AND PARTS MANUAL

MEDALIST 820/870
TABLE MODEL FOLDERS

Sold and Serviced by

The Challenge Machinery Company
6125 Norton Center Drive
Norton Shores, MI 49441-6081 USA

ChallengeMachinery.com

F.669-D

WHITAKER BROTHERS SINCE 1945 800-243-9226

INTRODUCTION

WELCOME to the family of Challenge® users. Challenge has been developing and manufacturing Graphics Arts Equipment for over 100 years and is today one of the world's leading producers and distributors of Paper Cutters, Paper Drills and Bindery Equipment.

SAFETY ALERT! This symbol means **CAUTION OR WARNING: Personal safety instructions!** Pay special attention to the instructions in bold type. Personal injury may result if the precautions are not read and followed. See SAFETY PRECAUTIONS, page 6.

- This machine is designed for **ONE PERSON OPERATION ONLY!**
- Always **DISCONNECT THE POWER** before working on this machine.
- **DO NOT OPERATE WITH ANY GUARDS REMOVED!** Replace all guards before operating.
- **CRUSH HAZARD** - Keep hands, hair, cleaning rags, & loose clothing away from rollers.

READ THIS MANUAL BEFORE OPERATING! Follow precautions and instructions given and you should have years of trouble-free operation. If after reading the manual questions still remain, contact your Authorized Challenge Dealer.

FOR PARTS AND SERVICE contact the Authorized Challenge Dealer from whom you purchased your machine. Use the illustrations and parts lists at the back of this manual to identify the correct parts needed. **Always give the SERIAL NUMBER and MODEL** of your machine to insure that the correct parts are sent as soon as possible.

Take a few minutes right now to **RECORD YOUR MACHINE SERIAL NUMBER** in the space provided on the front cover of this manual. Also be sure to fill out the warranty card accompanying this manual and return it **DIRECT TO CHALLENGE.**

If you bought a used machine, it is important to have the following information on record at Challenge. Copy this page, fill in the information and send it care of: The Challenge Service Department, 6125 Norton Center Drive, Norton Shores, MI 49441-6081.

CHALLENGE MODEL	SERIAL NUMBER
ATTN.	COMPANY
ADDRESS	
CITY	STATE ZIP
PHONE	DATE INSTALLED
DEALER'S NAME AND CITY	

WARRANTY INFORMATION

PLEASE REVIEW THE ENCLOSED WARRANTY SHEET!

*It is **very important** that you read and understand the conditions outlined in the Warranty Information Sheet included with the manual information package.*

*The Warranty Information Sheet must be filled out completely, returned, and be **ON-FILE** at **THE CHALLENGE MACHINERY COMPANY** in order for the warranty to be issued for this machine.*

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(fig. 1)

Medalist Air Feed Table Model Folder
(870 shown with stand)

PACKING LIST

Your folder has been carefully packaged to prevent damage in shipment. Inspect all shipments as soon as they are received. Note any signs of damage on the freight bill and notify the claims department of the carrier **within 15 days**. All claims for damage or loss are the responsibility of the receiver, **INSPECT PROMPTLY!** Check the contents of your container(s)* against the following list. **NOTE:** The vacuum-pump unit is shipped in a separate container.*

In the folder carton you should find the following sub assemblies:

1). Base Machine
2). Feed Table Assembly
3). First Fold Plate
4). Second Fold Plate
5). Stacker Tray Assembly
6). Stacker Wheel Assembly
7). Accessory Package (see parts list of Standard Accessories, pg 66)
8). Vacuum Tubes (3)
9). Sound Guard
10). Feeder Back Stop
11).* Compressor Unit
12).* Strainer, Pump Unit P-102

The folder stand will arrive in a separate carton.

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SPECIFICATIONS

Stock Handling	
Maximum Sheet Size	14" x 20" (35.6 cm x 50.8 cm)
Minimum Sheet Size	4" x 6" (10.2 cm x 15.2 cm)
Paper Weight	9# bond to 65# cover 34 g/m^2 to 176 g/m^2
Number of Plates	2
Fold Plate Depth (plate #1) (plate #2)	2" to 17" (5.1 cm to 43.2 cm) 2" to 9" (5.1 cm to 22.9 cm)
Fold Roller Diameter	1-1/2" (3.8 cm)
Roller Adjustments	Roller Calipers
Fold Rollers - 820 - 870	Rubber Combination (rubber & steel)
Maximum Speed	30,000 Sheets/Hour (8-1/2" x 11")(A1)
Dimensions	
Overall Height	25" (63.5 cm)
Overall Length	61.5" (156.2 cm)
Overall Width	25" (63.5 cm)
Net Weight (approximate)	275 lbs. (124 kg)
Shipping Weight (approximate)	300 lbs. (135 kg)
Electrical	
Standard Motor	120 Volt (± .010%), 60 Hz, 1 Phase, 15 Amps, Service size 20 Amps.
Optional Motor	240 Volt (± .010%), 50 Hz, 1 Phase, 10 Amps, Service Size 15 Amps

Sound Emission

A - Weighted sound pressure level at operator level 6 ft. (1.83m); folding 20lb (75g/m^2), 8-1/2" x 11" (216X279mm)

Machine Folding: 91 dB

A - Weighted sound power level at operator level 6 ft. (1.83m); folding 20lb (75g/m^2), 8-1/2" x 11" (216X279mm)

Machine Folding: 101 dB

Challenge reserves the right to make changes to any product or specification without notice and without incurring responsibility to existing units.

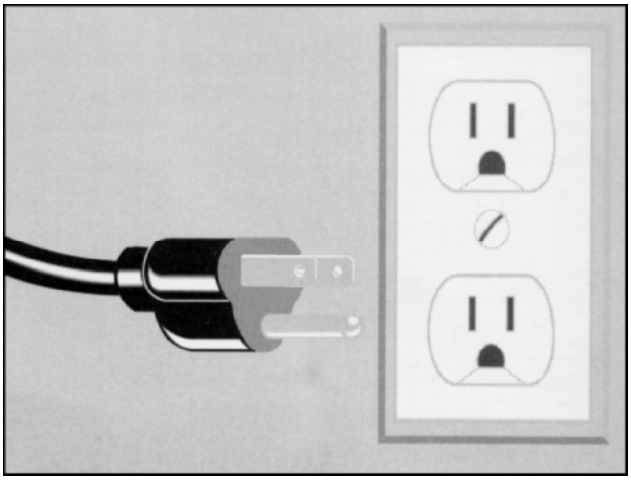
SAFETY PRECAUTIONS

This safety symbol means CAUTION/WARNING - PERSONAL SAFETY INSTRUCTION. Read the instructions because it has to do with safety. Failure to comply with the following instructions may result in personal injury.

- **This machine is designed and safeguarded for ONE PERSON operation. NEVER operate the machine with more than one person.**
- **Safety of this machine is the responsibility of the user and operator. Use good judgement and common sense when working with and around this machine.**
- **READ and understand all instructions thoroughly before using the machine. If questions still remain, call your Authorized Challenge Dealer - Failure to understand operating instructions may result in personal injury.**
- **Only trained and authorized persons should operate the machine.**
- **DO NOT ALTER SAFETY GUARDS OR DEVICES, they are for your protection and should not be altered or removed.**
- **DISCONNECT POWER before cleaning, lubricating, servicing, or making adjustments not requiring power. See Power Lockout Procedure below.**
- **HIGH SPEED ROLLERS - Keep rags, loose clothing and long hair away from rollers. Personal injury could result from items being caught on rollers.**
- **Have your electrician make sure the machine is properly grounded.**
- **Have your electrician check for sufficient power to operate the machine properly.**
- **OBSERVE ALL CAUTION PLATES AND LABELS on this machine.**
- **Keep foreign objects off table and away from rollers.**
- **BE EXTREMELY CAREFUL when handling and changing the slitter, perforating or scoring blades. Severe lacerations or dismemberment could result from careless handling procedure.**
- **Keep the floor around the machine free of trim, debris, oil and grease.**
- **If the machine sounds or operates abnormally, turn it off and consult the Trouble Shooting section of this manual. If the problem cannot be corrected, have it checked by a qualified service person or your Authorized Challenge Dealer.**
- **DO NOT CLEAN ROLLERS WITH THE MACHINE RUNNING! Disconnect the power and use the handwheel to turn the rollers.**
- **DO NOT OPERATE WITH ANY GUARDS REMOVED! Replace all guards after adjusting, lubricating or servicing the machine.**

CAUTION: POWER LOCKOUT PROCEDURE

For maximum safety and to prevent unauthorized use, turn the power switch to the off position and disconnect the power cord whenever adjusting, lubricating, or making repairs to the machine.



(fig. 2)

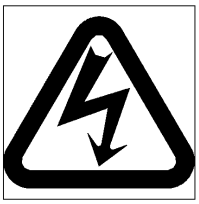
WARNING LABEL DEFINITIONS

SINGLE OPERATOR

Do not operate with more than one person.

SHOCK HAZARD

Disconnect power before removing cover. Replace cover before operation.



SHOCK HAZARD

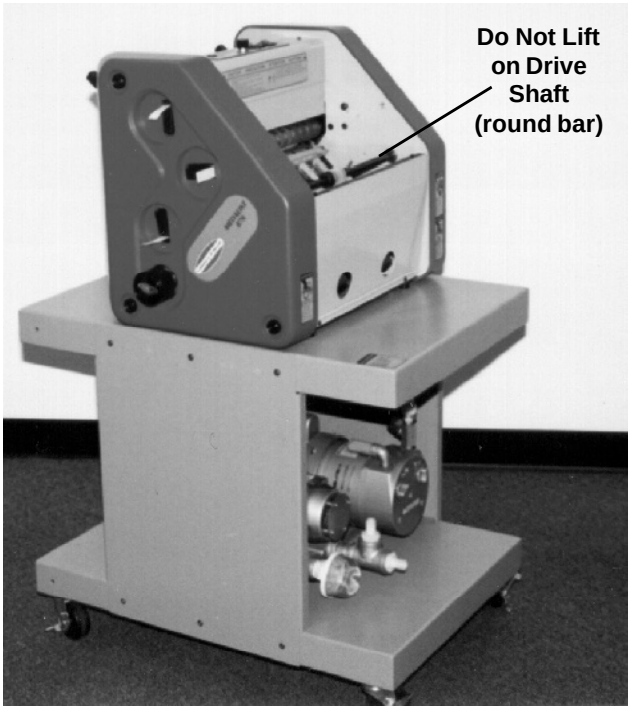
Disconnect power before removing cover. Replace cover before operation.

HAZARDOUS AREA

Disconnect power before cleaning, servicing, or making adjustments not requiring power. Do not alter safety guards or devices, they are for your protection. Replace all guards, do not operate with any guards removed.

INSTALLATION

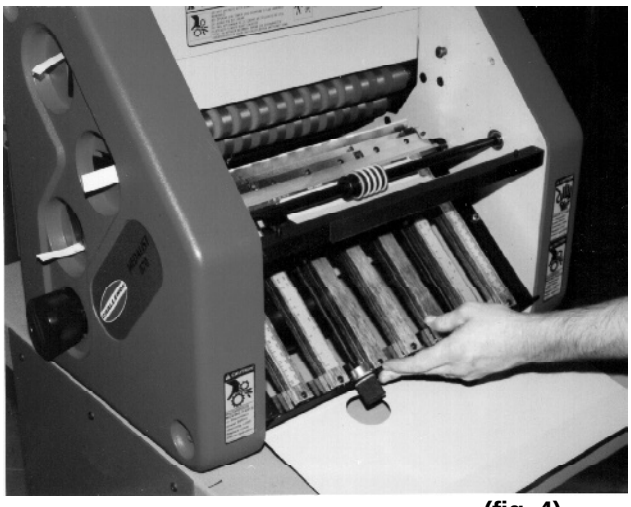
Note: For Right Angle & Crosscarrier assembly see page 20. Open the stand carton first and assemble according to the instructions enclosed. Using two people, center the folder on the stand as shown, fig. 3, with the stand opening towards the front.



(fig. 3)

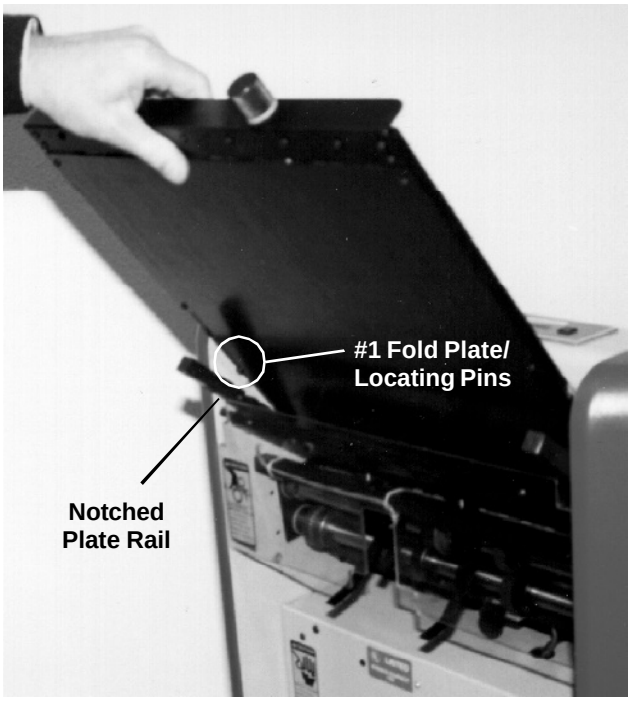
Remove the parts of the folder checking them against the packing list on page 3 of this manual. (Remove and save the roller spacers on 820 only.)

Steps for assembling the Medalist folder:



(fig. 4)

1. Install the #2 (lower) foldplate. Lower the cover and insert the #2 foldplate making sure the pins latch into the rail guides, (fig. 4), and tighten the eccentric plate locks, (fig. 6). Note both plates have two sets of locating holes in the plate rails. The first set is used when the plate deflector is down, the other when the plate is open, see fig. 5.



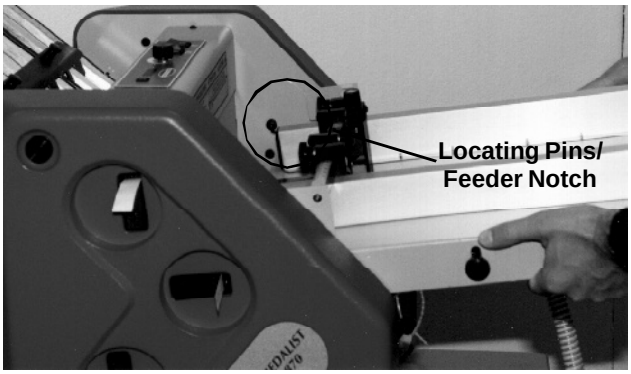
(fig. 5)

2. Install the #1 (upper) foldplate, fig. 5.

(fig. 6)

3. Make sure the foldplate pins are located in the guide rails, then lower the plate locks, (fig. 6).
Place the sound cover on top of the #1 foldplate. (the sound cover is optional on 820 model).

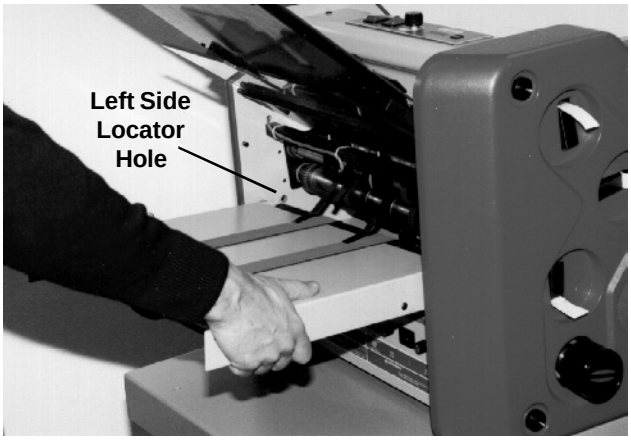
4. Install the feed table. Insert the table between the



(fig. 7)

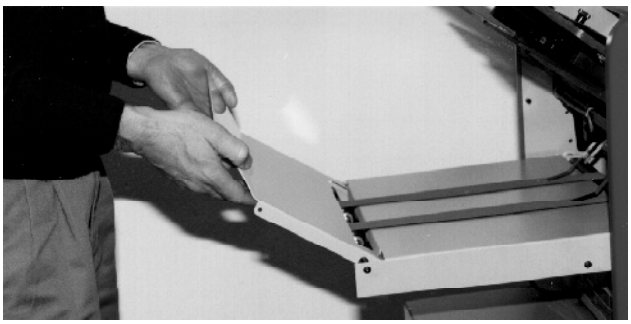
side frames. Install the feed table so the notches in the side brackets, (fig. 7), mate with the mounting pins inside the folder side frames.

NOTE: Mounting pins should be located in the ***upper set*** of threaded holes. (Lower holes are used to mount a crossfold carrier assembly.)



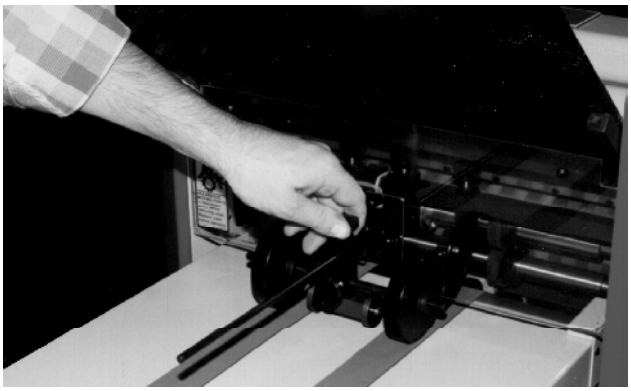
(fig. 8)

5. Install the stacker table assembly, (fig. 8), on the back of the folder. Insert the spring-loaded end (right side – viewed from rear of the folder) of the drive shaft into the locator hole in the side frame, compress the spring against the side frame and swing the opposite end into position in the other side frame.



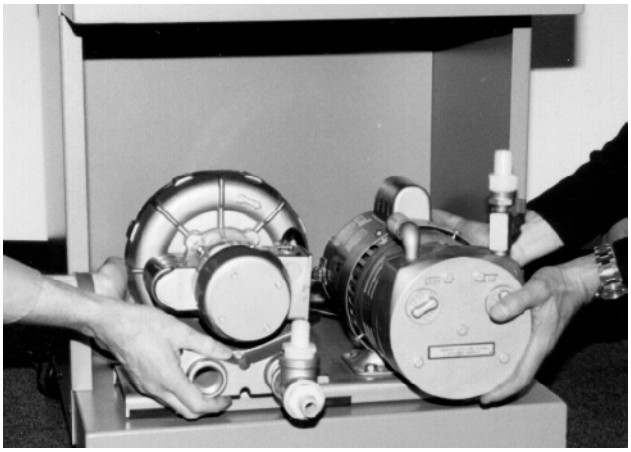
(fig. 9)

6. To pile folded materials, insert ears of stacker tray into end of stacker table, as shown, fig. 9.



(fig. 10)

7. Attach the stacker wheel assembly to the tie bar next to the jam detector, as shown, fig. 10.

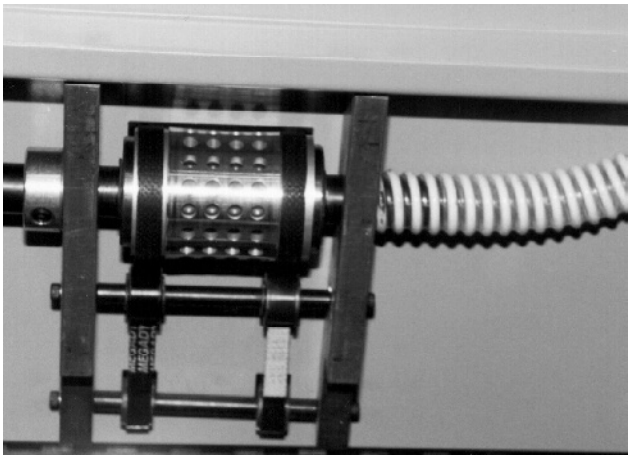


(fig. 11)

8. Using two people, position the compressor on the bottom shelf of the stand, (fig. 11).

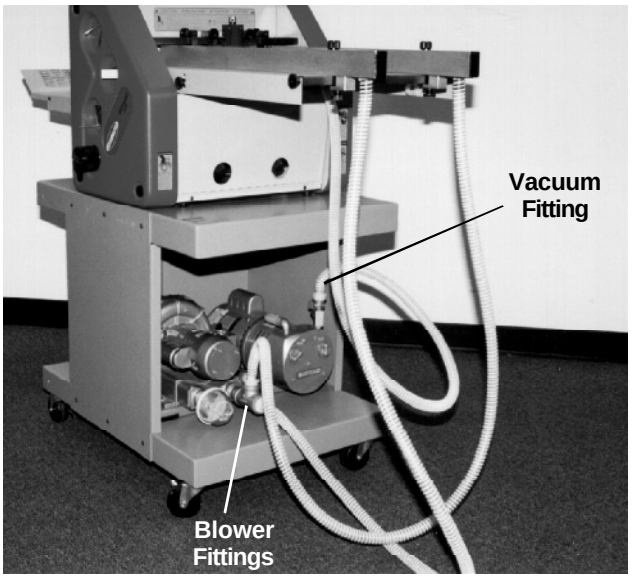
(fig. 12)

9. Install the strainer screen (shipped with the accessory kit) to the intake opening of the blower unit, (fig. 12).



(fig. 13)

10. Connect the compressor hoses to the feed table assembly. The sucker wheel hose threads through the ty-rap and table support, underneath the feed table, then onto the end of the sucker wheel shaft tube, as shown in fig. 13.



(fig. 14)

11. Attach the air hoses from the ends of the pile guides to the double hose fittings of the blower. The single hose from the sucker wheel fitting attaches to the vacuum fitting, (fig. 14).

NOTE: Make sure all shipping plugs are removed from the pump openings before attaching the hoses!

Cleaning

A clean machine will reflect in the quality of the work it produces. As you unpack your folder, wipe off any excess protective oil, dirt, or dust which may have accumulated during shipping.

Keep your machine clean, and wipe off any accumulations of paper dust at the end of each day. Cover your machine anytime it is not in use. See the maintenance section for additional cleaning instructions.

NOTICE

820 ONLY: Whenever the machine is not being used, reinsert the roller spacers shipped in the machine to prevent flat spots from forming. This is a operator controled maintenance function. Roller flat spots are *NOT COVERED* under warranty.

CAUTION: DISCONNECT THE POWER BEFORE INSTALLING THE ROLLER SPACERS.

1. Close the deflectors on both fold plates.
2. Place one roller spacers at each side of the feed table and feed between the rollers with the hand wheel.
3. Remove the spacers before running the next job.

Power Hookup

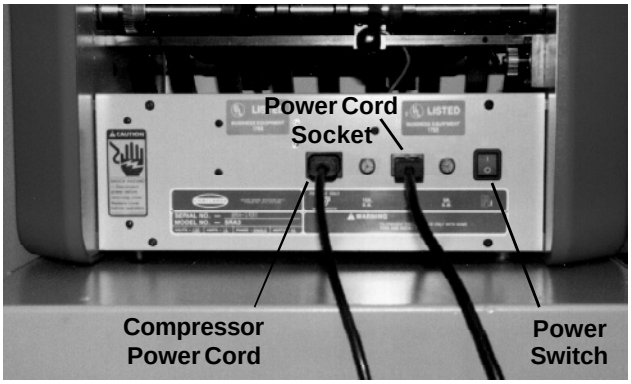
The standard Medalist Folder requires a 120 volt, 20 amp circuit with a three-prong, grounded receptacle. It is the customer's responsibility to provide a power line that meets all local electrical codes.

Optional 50 Hz, 240 volt machine draws 10 amps. Provide proper circuit to handle load.

WARNING: DISCONNECT PROCEDURE: NEVER PULL THE CORD to disconnect the plug. Cord fatigue could lead to shorts resulting in fire or personal injury from shock. Always grasp plug body to disconnect power cord, fig. 2, pg. 6.

WARNING: SHOCK HAZARD! NEVER CUT THE GROUND LUG from a three-prong plug to fit a two-prong socket. Possible shock could cause personal injury or death. Hire a qualified electrician to provide a power source that meets electrical requirements and all local electrical codes.

Power Controls

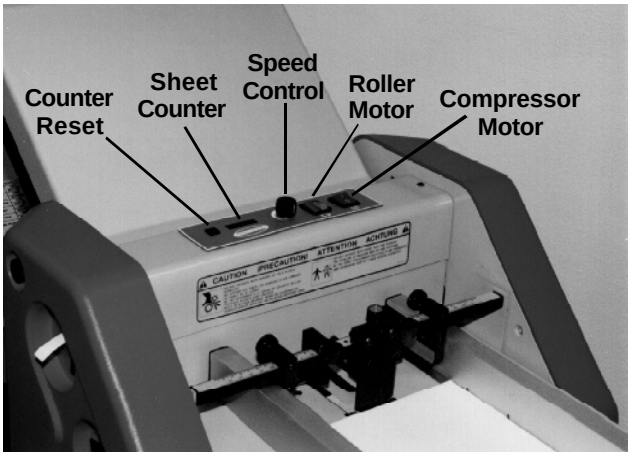


(fig. 15)

The power panel, (fig. 15), is located on the back of the folder below the first fold plate and stacker table. The compressor unit power cord plugs into the socket on the left side of the power panel.

Make sure the power switch is in the OFF ("O" or Open) position. The external power cord plugs into the power panel socket next to the switch.

Control Panel



(fig. 16)

The individual on/off switches for the compressor and the roller motor are located on top of the roll guard cover, (fig. 16, 870 model shown). They are marked with the international ON (**I**) and OFF (**O**) symbols.

The rotary knob is the roller **Speed Control**.

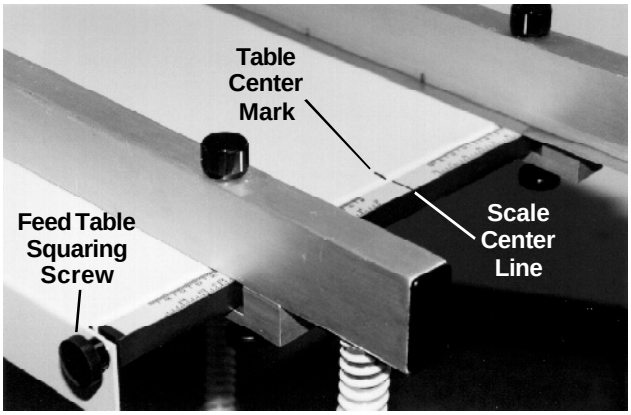
The **Sheet Counter** window and the **Counter Reset** button (optional on 820 models) are located on the far left of this control panel (as viewed from the feed table).

OPERATION

Squaring

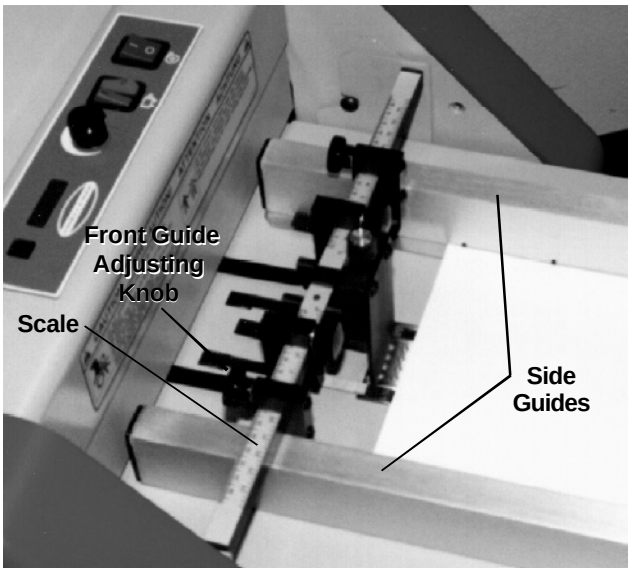
In order for your machine to fold stock squarely, it must be fed into the rollers square. Your Medalist has been adjusted at the factory and should only require periodic checks. The Medalist has a unique feed table adjustment feature to quickly and easily adjust it if needed.

WARNING: DISCONNECT THE POWER.
See power lockout procedure on page 6.



(fig. 17)

1. Adjust the feed table squaring screw and align the center line of the scale with the center mark on the feeder table, (fig. 17).



(fig. 18)

2. Loosely position the feed table side guides to the scales on the feed table, (fig. 17 & 18). Read the front scale at the inside edge of the side guide clamp block. The rear scale will line up with the inside edge of the side guide. The scales are set up to center the paper on the sucker wheel. Initially set each side guide 1/4" (6mm) wide. Do not tighten the lock knobs.

3. Raise the sheet separator (ccw) so it is away from the sucker wheel (fig. 19). Place a sheet of the paper to be folded on the feed table. Slide the sheet forward into the rollers. The sheet must contact the rollers evenly and not touch the side guides. Turn the hand wheel so about 1/2" (3mm) is pulled into the rollers.

4. Position the operator side guide so it is just touching the sheet but not pushing it. The side guide must be even to the sheet from end to end. Tighten the front lock knobs then the rear knobs, (fig. 17 & 18).

5. Repeat step 4 on the nonoperator side guide.

6. The paper will now feed square into the rollers. Now that the side guides are square, the feed table squaring screw, (fig. 17), can be adjusted for fine tuning the overall squareness.

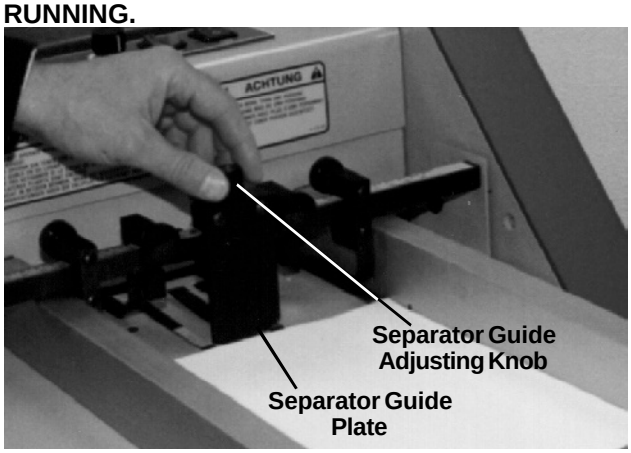
Vacuum Feed Sheet Separator

The sheet separator will have to be adjusted for the weight of stock you are folding. Ideal adjustment will feed only one sheet without marking the paper or feeding doubles. Use the following procedure to get started. Fine tune these adjustments according to the condition of the paper and the environmental conditions of your particular work area.

Adjustment procedure:

1. Raise the separator (ccw) to avoid marking the sucker wheel.

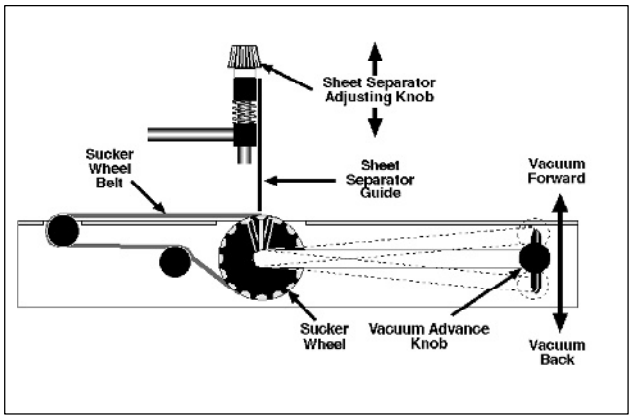
NOTE: DO NOT MAKE SEPARATOR ADJUSTMENTS WHILE THE FOLDER IS RUNNING.



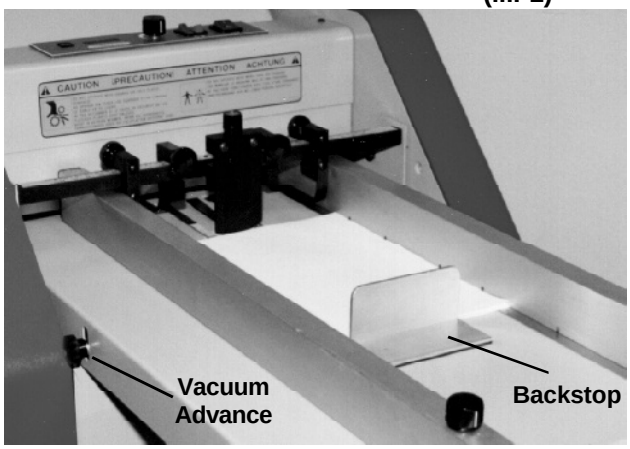
(fig. 19)

2. Turn the handwheel until the separator tip is positioned over a solid portion of the sucker wheel, i.e. between the rows of holes.

3. Place a one inch wide (25mm), double thickness piece of stock to be folded under the tip of the separator plate, (fig. 19). Lower the separator (cw) until there is a slight drag on the paper as it is pulled from under the separator.



(ill. 1)



(fig. 20)

4. The vacuum advance knob is located on the side of the feed table, (fig. 20). Adjusting the knob will position where the vacuum contacts the lift of paper, ill. 2a & 2b. Raising the knob will move the vacuum away from the lift and toward the rollers (light papers). Lowering the knob will move the vacuum contact toward the lift and away from the rollers (heavy papers).

Horizontal Separator Adjustment

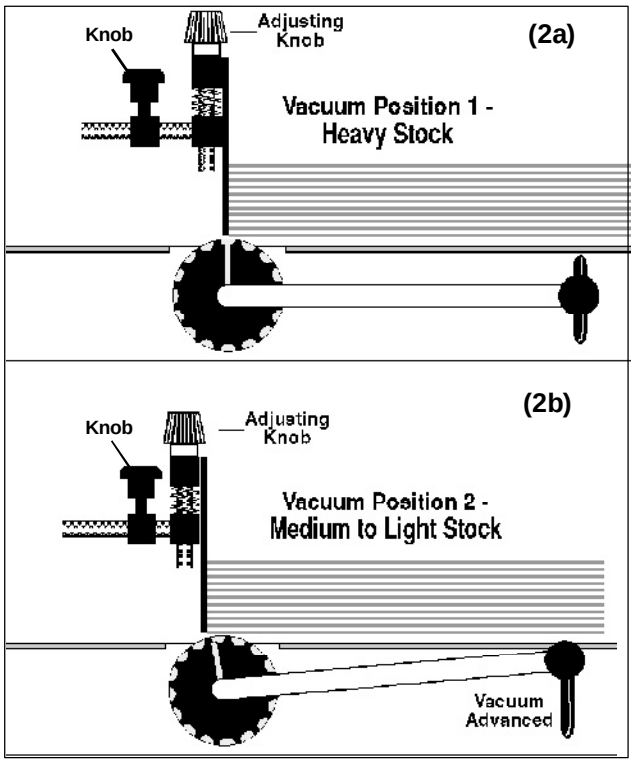
1. Raise the separator (ccw) to avoid marking the sucker wheel.

2. Loosen knob (ill. 2). Setscrew in Accessory Kit, (item #14, pg 67), may replace knob if desired.

3. As a starting reference, turn the handwheel until a set of sucker wheel holes is at the 12 o'clock position.

4. Adjust separator assembly so that the plate is 1/16" forward of the 12 o'clock position, measure from the feed side of the plate.

5. Tighten knob (ill. 2).

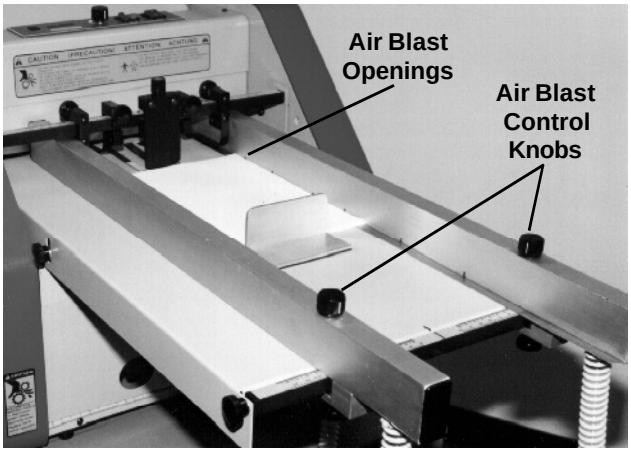


(ill. 2)

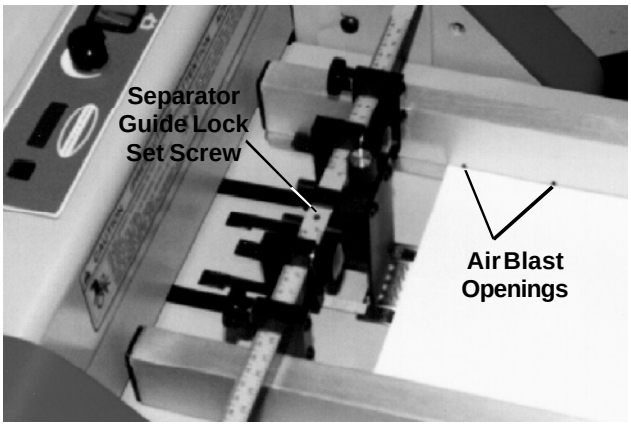
Feeding Paper

1. Load a lift of paper onto the feed table. The lift should be no higher than the side guides, 2" (51mm). Position the backstop up against the lift, (fig. 20).

2. Turn on the air/vacuum pump. The air should float the bottom of the lift approximately 1/16 to 1/8" (16 to 32mm). Air blast can be controlled by adjusting the valve located at the end of each side guide, (fig. 21 & fig. 22, pg 14).



(fig. 21)



(fig. 22)

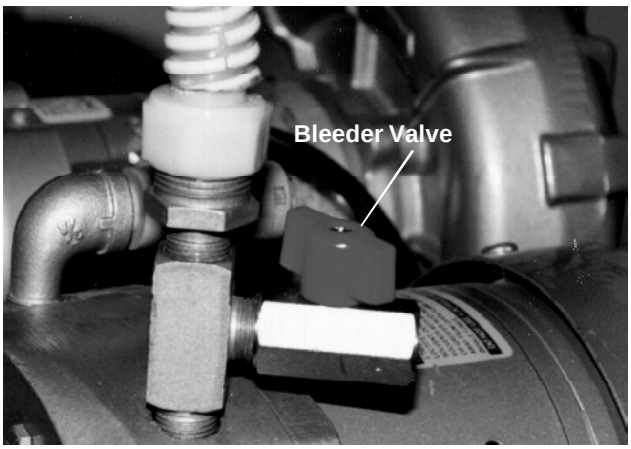
3. Turn the speed control to 1/2 or full speed. Place your thumb on the back of the lift to keep paper from feeding. Press the green rocker switch, the sucker wheel will start to turn. Reduce the pressure of your thumb to feed only 3 to 4 sheets. Press your thumb down to stop the feeding again. Press the red rocker switch to stop the sucker wheel from turning. If the paper did not feed, adjust the position of the vacuum advance (fig. 20, pg 13), bleeder valve (fig. 23), or sheet separator, (fig. 19, pg 12).

4. Check the accuracy of the 3 or 4 sheets fed. It may be necessary to adjust the fold stop, (fig. 24), or the squareness of the fold stop, (fig. 25, pg 15), or the squareness of the side guides. Try only one adjustment at a time then repeat step 3.

5. If the folds look good, the job may now be run. The speed of the folder will affect the accuracy of the folds. Folds set up at slow speed will be different at high speed and will need to be fine tuned.

Note: All of the controls mentioned above contribute to smooth and accurate folding. There are many combinations possible depending on the condition of the paper and environment.

Bleeder Valve (Vacuum Adjustment)

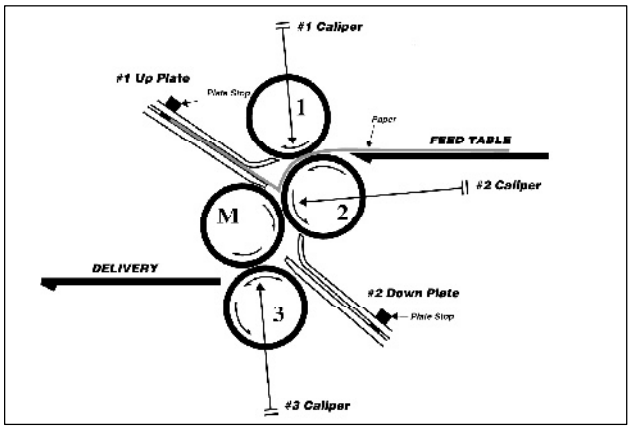


(fig. 23)

There is a bleeder valve on the vacuum pump, (fig. 23), which allows for vacuum adjustment from completely off to completely on. General settings for the bleeder valve are half open for 20# stock, and closed for 80# and heavier stock. If your machine is feeding doubles, this can be opened slightly to “relieve” some of the vacuum and stop the double feeding.

Fold Plates

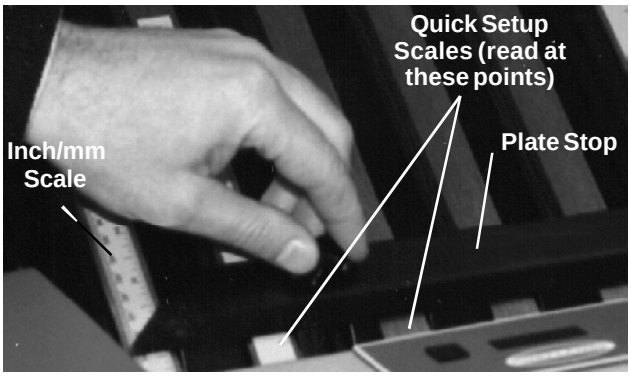
Plate set up will depend on the type of stock and type of fold you require. The fold plate design on the Medalist allows changing from open or closed deflector (up and/or down folds) without removing or turning the plates.



(ill. 3)

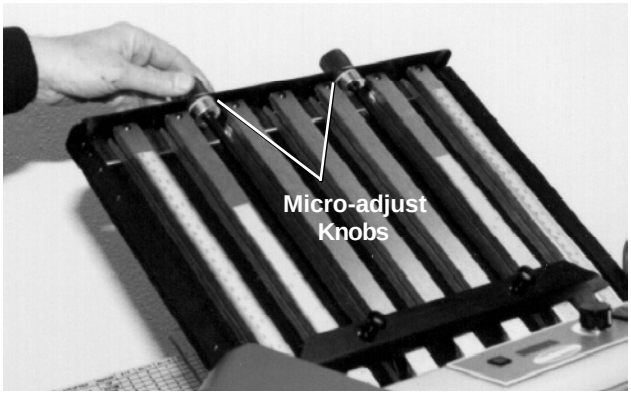
A good understanding of the roller/plate configuration will help you decide which plate to open or close for up or down folds. Illustration 3 shows the paper path for a common Z-fold.

A self adhesive folding guide label is included with the manual and may be conveniently placed on the delivery tray. Used along with scales on the fold plates, the guide will help you quickly establish a rough set up for some of the most common folding jobs.

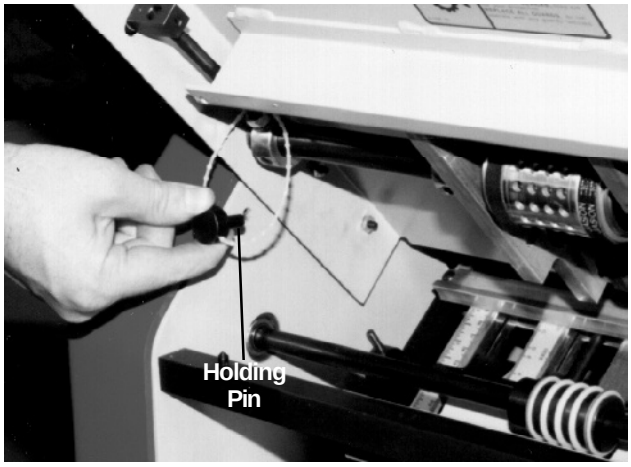


(fig. 24)

Coarse adjustments are made by loosening the lock screws on the plate stops, (fig. 24), then moving the stop. The plate stop lines up with the scale marks along its front edge (not where the paper contacts the stop). Fine adjustments are made with the micro adjust knobs on the ends of the fold plates, (fig. 25, pg 15).



(fig. 25)



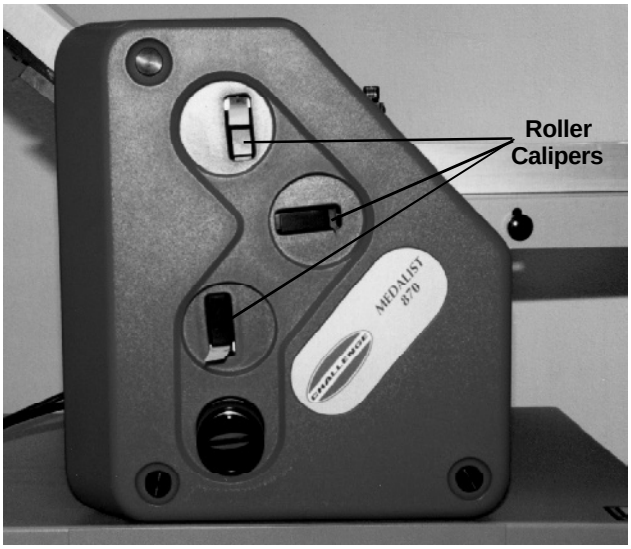
(fig. 26)

For easy access to the second (bottom) fold plate while making coarse adjustments (*NOT WHILE RUNNING*) the feed table may be lifted out of the way and held there by inserting the holding pin in the side frame, (fig. 26).

Roller Caliper Set up (870 only)

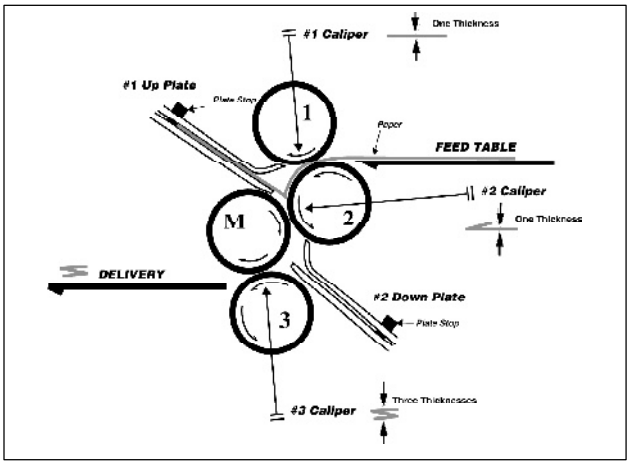
WARNING: DO NOT MAKE ROLLER ADJUSTMENTS WITH THE FOLDER RUNNING! Serious personal injury or machine damage could result from tools, fingers, hair or clothing being caught by rollers. Always disconnect the power cord when setting rollers. Never operate folder with any guards or fold plates removed.

Adjustable calipers are used on the Medalist 870 to obtain clean crisp folds on a variety of stock. The proper amount of paper strips (of the same material being folded) in each caliper will give the best grip for a good fold. As the paper is folded, the thicknesses of the paper passing between the rollers increases. The number of paper strips placed in the calipers should be equal to the ***minimum*** thickness of the paper passing between the rollers (tail end of the sheet).



(fig. 27)

To provide the proper clearance between rollers, 3/4" wide paper strips are inserted into the calipers, (fig. 27). Simply press the caliper lever and insert the correct number of strips into the open gap. Put the same number of strips into both sides of the folder. Do not use folded or torn strips of paper (they may give false



(ill. 4)

readings). Illustration 4 diagrams the position of rollers, fold plates, feed table, calipers and the correct number of paper strips to be placed into the calipers for a common "Z" fold.
The chart on page 16 shows the caliper and plate set up for several common folds.

NOTICE

Whenever the machine is not being used, put chipboard into the roller calipers in place of paper to prevent rollers from getting flat spots. This is an operator controlled maintenance function. Roller flat spots are *NOT COVERED* under warranty.

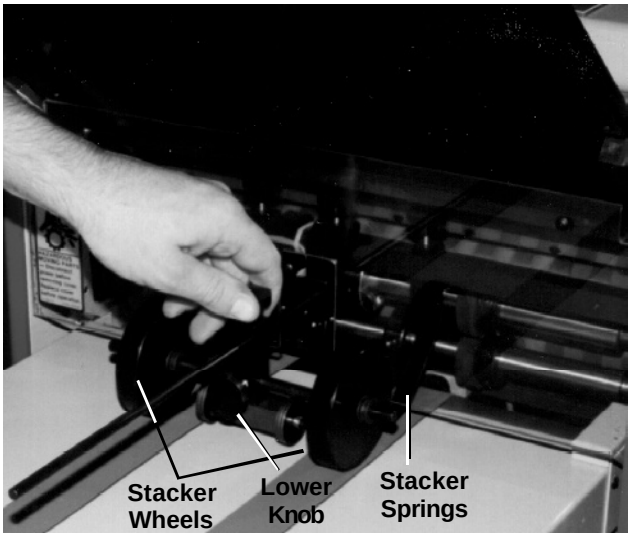
Roller Caliper Quick Set Up Guide

Roller calipers on the Medallist 870 feature quick set up calipers. Calipers adjust the space or tension between rollers to provide the proper grip on the paper for clean crisp folds. Each time the paper is folded, the thickness increases. To compensate for this, the calipers on ***both*** sides of the machine have strips of paper inserted. The correct number of paper strips to be placed into the calipers corresponds to the tail end of the sheet which will be the minimum thickness of the stock passing between the rollers. Use 3/4" wide, cut strips of the same material being folded. (Torn or folded strips will give improper settings.) Make sure that the calipers on both sides of the machine are set up with exactly the same number of paper strips. The chart below gives the set ups for calipers and plates for several common folds.

Fold Type	#1 Caliper	#2 Caliper	#3 Caliper	#1 Plate	#2 Plate
Letter	1	1	3	open	open
"Z"	1	1	3	open	open
Half	1	2	2	open	closed
Double Parallel	1	2	4	open	open

Stacker

The stacker consists of a table, belts, wheels, stacker springs, and a delivery tray. The stacker accumulates



(fig. 28)

folded stock for easy removal and stocking. The springs and stacker wheels keep the delivered sheets from opening up, interleaving and creating paper jams.

Set up:

1. Set the stacker wheels back from the slitter shaft the width of the folded sheet plus an additional 1/4".

2. The wheels should be placed towards the center of the folded piece to stop it in position as it is ejected from the slitter assembly.

3. Center stacker belts under stacker wheels.

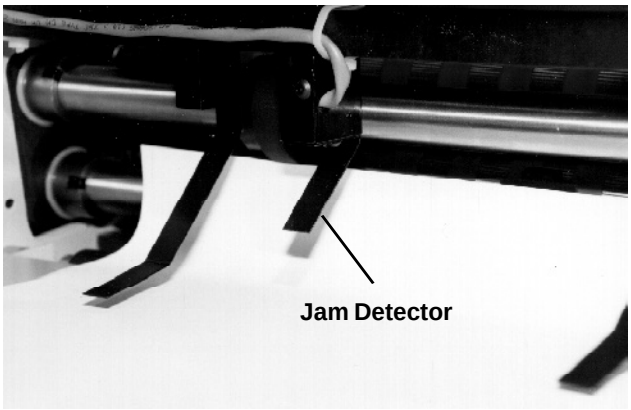
4. Position the stacker springs on the slitter shaft tie bar. They should be positioned towards the outside of the sheet to hold the edges of the folded piece down, (fig. 28). The springs may be bent for best operation.

5. Depending on the stock and the type of fold, best stacking performance may be had by using just the springs or the stacker wheels only. Fine tune these adjustments as you run your job.

6. Loosen lower knob to adjust stacker wheels from side to side.

Jam Detector

As standard equipment, all Medalist folders come equipped with a delivery area jam detector, (fig. 29). This device senses jams at the feed table and immediately stops the folder until the jam is removed and the machine is restarted. The jam detector is mounted on the center of the tie bar and looks similar to a third stacker spring, it may be bent for best operation.



(fig. 29)

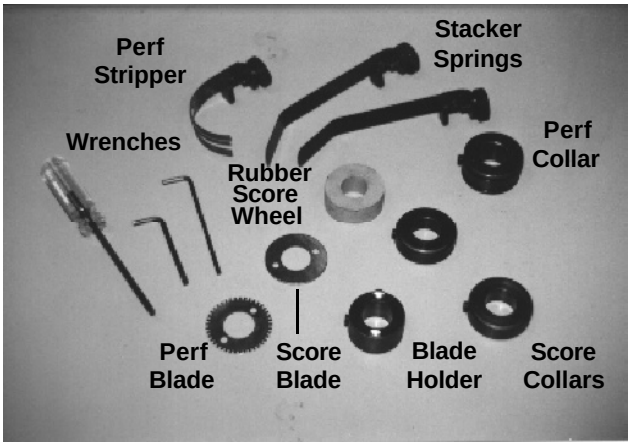
NOTES

NOTES

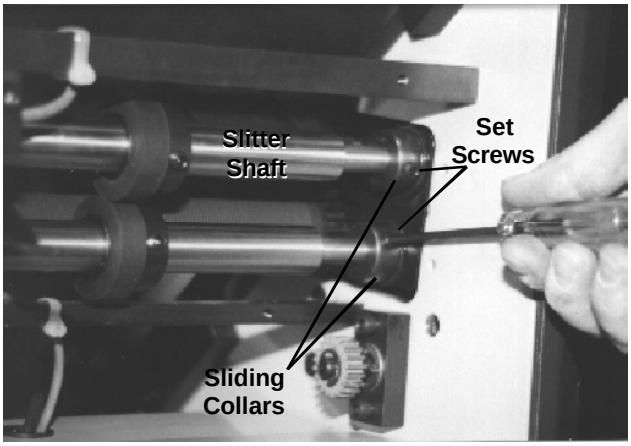
SPECIAL APPLICATIONS

CAUTION: Use extreme care when handling and changing the scoring or perforating blades. Severe lacerations could result from careless handling procedures.

SLITTER ACCESSORIES



(fig. 30)



(fig. 31)

Your Medalist includes perforator and scoring blades, two scoring collars, a rubber score wheel, a blade holder and a grooved perf collar as standard equipment, (fig. 30).

Installation of accessory blades and collars is simplified by the removable slitter assembly, (fig. 31). Loosen the set screw in the sliding collar, (fig. 31). Simply slide the slitter shaft to the right, bring the opposite end out of the folder frame and remove the shaft assembly. Install the accessory items as required and reinstall.

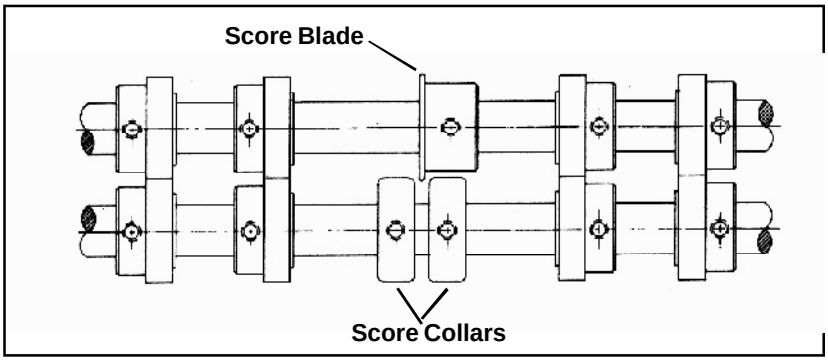
NOTE: Before tightening blade holder screws, mount the holder with the blade loosely attached onto the slitter shaft. Now tighten the holder screws. This ensures the blade is concentric with the slitter shaft making for easier installation and even scores and perfs.

Scoring

Position your scoring blade as desired. Scores should be made so that the blade runs on the side of the sheet that will be on the inside of the finished fold. Scores may be made on the Medalist in two ways;

1. The blade may be run on top of the rubber scoring wheel supplied. The rubber wheel is simply positioned on the slitter shaft opposite the score blade.

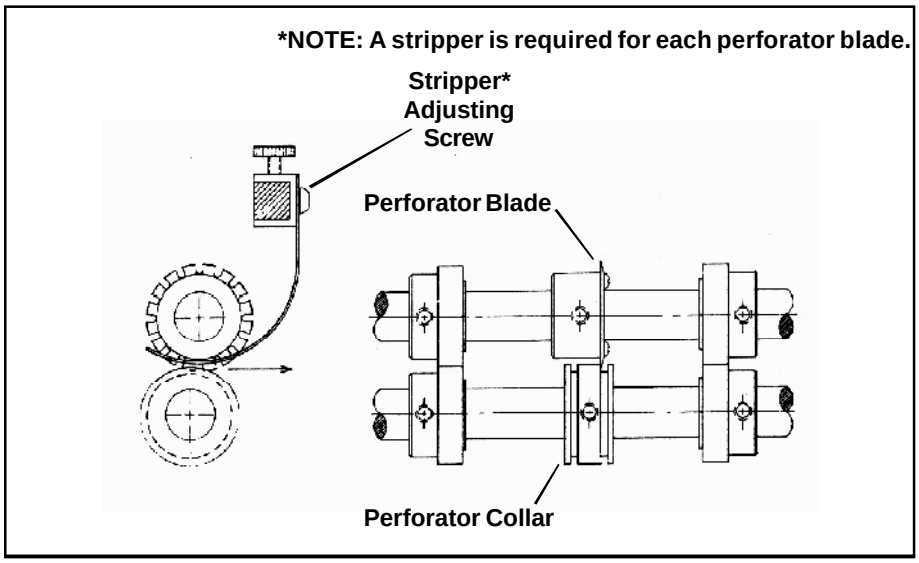
2. For a more controlled fold as might be needed with various stock thicknesses, use the scoring collars on the shaft opposite the score blade, (ill. 5). Position the collars on either side of the scoring blade. The degree of score desired may be obtained by moving the collars either closer or farther away from the blade.



Scoring (ill. 5)

Perforating

Perforating may be used to deliver a perforated sheet flat or as a guide for additional right angle folds.



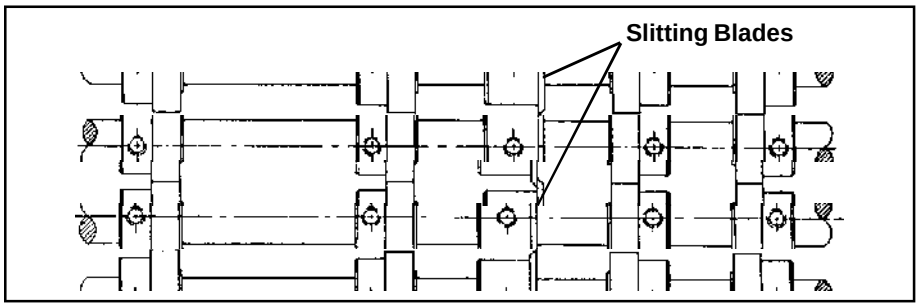
Perforating **(ill. 6a)**

The perforating blade (and any additional blades purchased in addition to the one supplied) is mounted on the upper shaft of the slitter assembly. The perforating blade is run against the inside edge of the groove in the perforating collar mounted on the lower shaft, (ill. 6a).

The curved slotted stripper finger is mounted on the square tie bar above the slitter assembly with one finger on either side of the perf blade. The stripper finger prevents the paper from wrapping around the perf wheel. It may be adjusted by loosening the button head screw in the mounting bracket and moving the fingers up or down, (ill. 6a). The fingers should be adjusted as close to the blade as possible without rubbing on it. Contact with the holder will cause premature wear of the stripper fingers.

Slitting

With the addition of a pair of slitting blades, folded sheets may be cut apart after folding or before delivery to a right angle cross carrier. Slitting blades are



Scoring **(ill. 6b)**

attached in the same manner as perforating blades. Note that blades are mounted to blade holders with special flathead countersunk screws. Mount the blade/holder unit onto the upper shaft in the position the slit is to be made. Position the second blade/holder onto the lower slitter shaft as shown in illustration 6b above so that the flat edges of the blades fit together snug (too much space will give ragged cuts). Slitting blades may also be installed to run against a collar as shown in the perforating instructions.

RIGHT ANGLE CROSSFOLD SYSTEM

(fig. 32)

Challenge offers a Right Angle Crossfold System which is used in conjunction with the Medalist

The System consists of a second parallel unit, a crossfold carrier table, shorter stand and a transfer assembly which displaces the delivery table of the folder (the delivery table is placed on the back of the crossfolder).

CAUTION: Disconnect the power to all units before positioning the crossfold system and making the electronic connections.

Installation

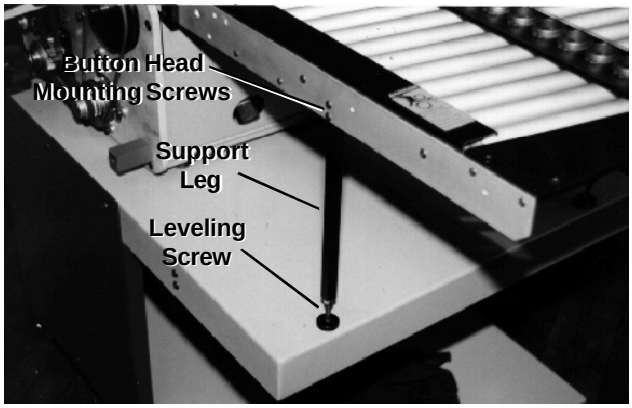
1. Remove the stacker wheel assembly and delivery table from your folder. See note on page 70.

2. Reposition the folder on its stand. Move the folder to the back edge of the stand as shown in the photo above, fig. 32.

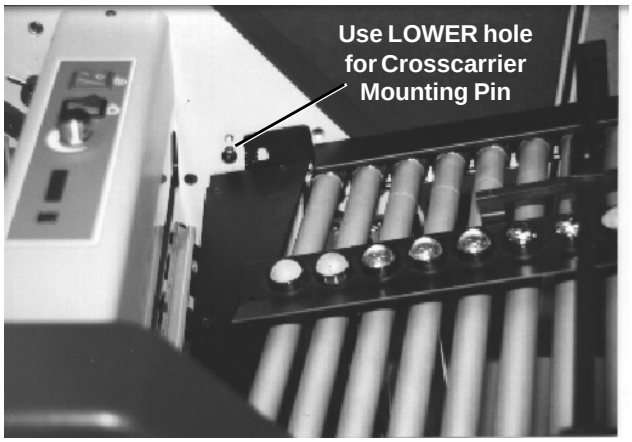
3. Place the folder for the crosscarrier onto its stand. It should also be positioned towards the back edge of its stand as shown in fig. 32.

4. Install the cross carriage support legs to the cross carriage frame, (fig. 33). The legs are mounted with two, #10-24 x $^{3}/_{8}$" button head cap screws.

5. Insert the crosscarrier assembly between the side frames making sure the support legs rest on the crosscarrier stand. Make sure the mounting pins for the crosscarrier conveyor assembly are in the lower set of holes in the roller side frames, (fig. 34). Install the left hand screw first, then the right hand side.



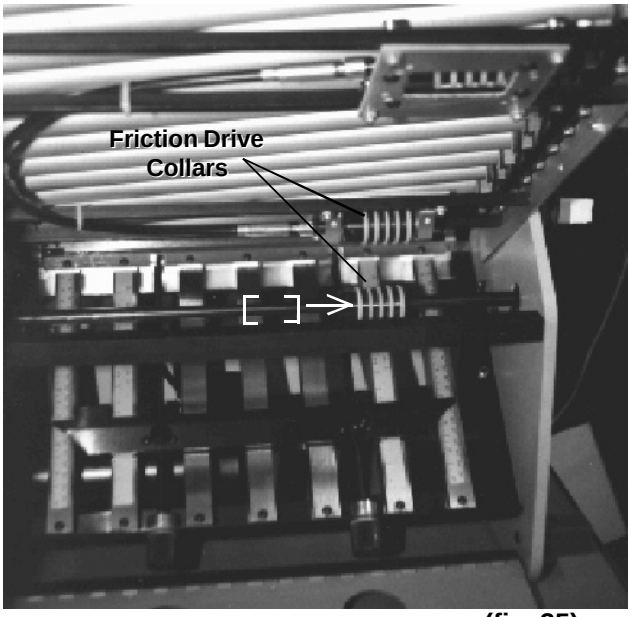
(fig. 33)



(fig. 34)

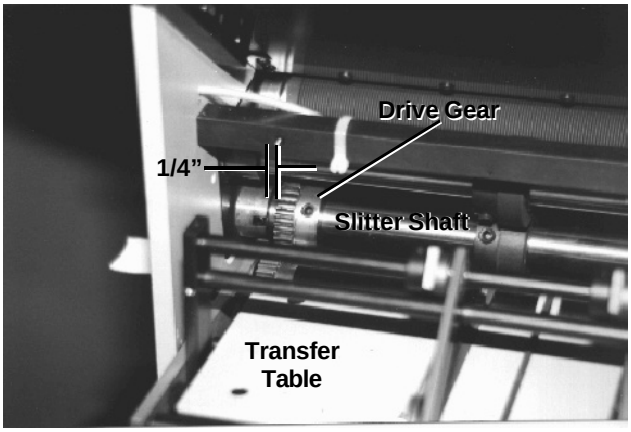
A little downward pressure on the crosscarrier assembly will help to align the holes to aid installing the mounting screw (the friction drive is located under the right side requiring the pressure to align the mounting holes).

NOTE: If you have purchased a crosscarrier kit as an after market addition to convert a second folder to a right angle, you will need to perform three additional procedures (A – C) as follows.



(fig. 35)

A. Reposition the O-ring friction drive collar from the center (feed table) position to align with the drive collar of the cross carrier, (fig. 35). Loosen the set screws in the collar and move the collar to the right until it aligns with the collar on the crosscarrier. O-rings should alternate contacts. Retighten the set screws.



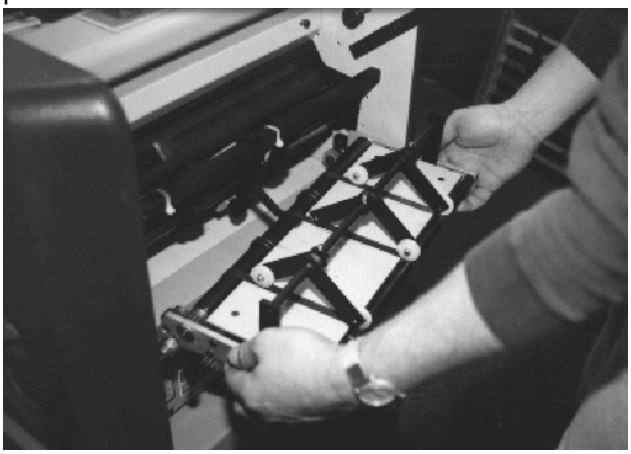
(fig. 36)

B. Install a transfer table drive gear onto the lower slitter shaft of the machine that is to be used as the main folder. Remove the lower slitter shaft and remove all the drive wheels (and any perf, score, or slitting blades/wheels). Install the drive gear (teeth first) onto the shaft, position and secure 1/4" from the end of the shaft, see fig. 36. Replace the drive wheels (and any accessory wheels, blades, or collars). Replace the scoring shaft into the folder. (Gear may be repositioned on the shaft if necessary once the transfer table has been installed.) Make sure all the set screws are tightened securely.

C. Install the electronic pigtail assembly so the machines can electronically communicate with each other. Instructions for making this hookup can be found on pages 72 & 73 in the Parts and Assembly Drawings section of this manual.

6. Once the crosscarrier legs have been attached and the crosscarrier installed into the parallel unit, level the crosscarrier by adjusting the leveling screws attached to the bottom of the support legs, (fig. 33, pg 20). **NOTE:** The carrier must be level side-to-side so it is level with the fold rollers. End-to-end, it does not have to be level, adjusting screws need only to be set low enough to provide enough contact between the friction drive collars (fig. 35) to drive the crosscarriage rollers.

7. Reposition the delivery table and stacker wheel assembly from the folder to the back of the right angle parallel unit.



(fig. 37)

8. Position the transfer table onto the back of the folder. It mounts in the same manner as the delivery table — Insert the spring loaded end (right side when viewed from the rear of the folder) of the drive shaft into the locator hole in the side frame, compress the spring against the frame and swing the opposite end into position in the other side, (fig. 37). **NOTE:** Make sure the drive gears mesh as shown in fig. 36.

9. Position the crosscarrier right angle unit against the back of your folder as in figure 32, pg 20 and proceed to make your conveyor and fold plate adjustments.

10. Connect the electrical cable pigtails protruding above the electrical panels. This allows the folders to communicate and shut down simultaneously in case of a paper jam in one or the other unit.

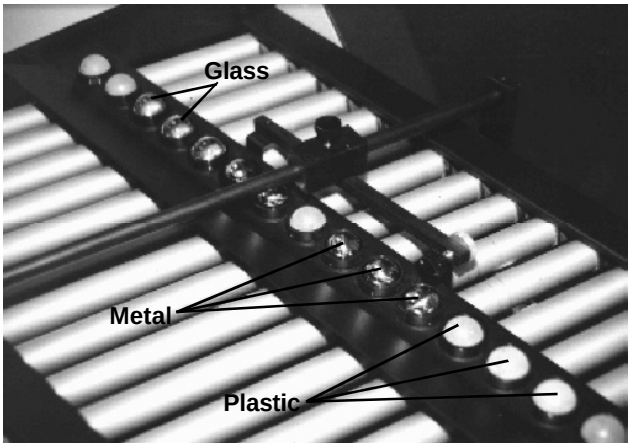
11. Connect the power cord into the back of the power panel. Plug the cord into a 20 amp grounded receptacle.

12. Turn on the Right Angle Crossfold Unit *FIRST*. (When connected as a Crossfold System, the Right Angle Crossfold unit is the master and must have the power turned on first.)

†If you have purchased the Crossfold System as an addition to your folder, you may have to add the pigtail cable connector to the electrical panel of your existing folder. The instructions for making this connection are located in the back of this manual beginning on page 72.

Conveyor Set Up

Take a folded sample of stock coming off the transfer table and insert it into the marble guide. Position the marble guide of the crosscarrier conveyor carefully so that the folded sheets land under the bevelled edge of the holder. You will probably need to position the guide plate to help guide the paper under the marble guide.



(fig. 38)

Push a sample sheet through by hand until it butts the fold rollers. Adjust the angle of the guide so the stock enters the rollers squarely. When running, the angled position of the rollers will pull the paper under the marbles and against the guide to align the stock for delivery into the fold rollers.

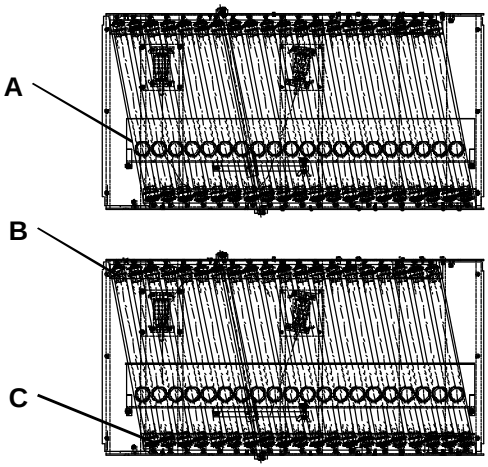
Your crosscarrier comes with three types of marbles, glass, steel, and plastic, (fig. 38), to provide different amount of holder pressure. Typically, heavier marbles are used closer to the rollers to provide more guiding action.

Fold plate set up is identical to the folder (see pg. 14).

NOTE: Crosscarrier systems are factory set up to fold 90° to the left as it exits the folder. If it is necessary to fold 90° to the right, a simple kit is available from the factory to switch the direction of the crosscarrier. Contact your authorized Challenge Dealer for details. Instructions and parts included in the kit are as noted on the following pages.

OPTIONAL CROSSFOLD CONVERSION KIT 35537

CAUTION: Turn off the power to all units and disconnect the power cords before disassembling or making any electronic connections.



Standard LH Delivery

Converted Optional RH Delivery

(ill. 7)

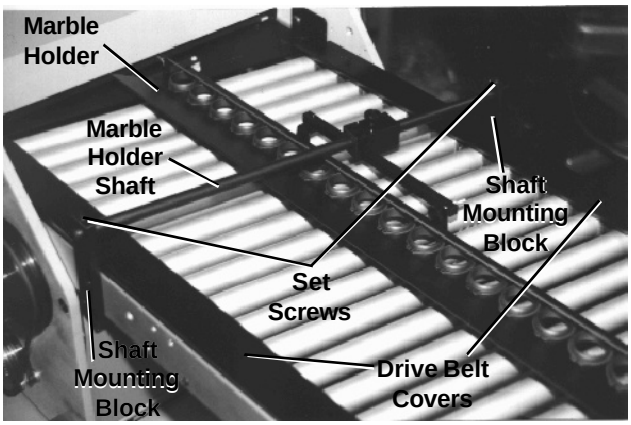
Crossfold Conversion Kit 35537

Ref.	Part No.	Description	Qty
A.	35514	Marble Holder Assembly–RH	1
		(Assembly includes items d–f below)	
B.	35533	Cover, RH Roller Belt	1
C.	35534	Cover, LH Roller Belt	1
d.	E-1172-20	Bushing (Marble Holders)	20
e.	H-6881-408	1/4-20x1/2" Hex Screw (Plastic)	2
f.	H-6412-4	1/4-20 Hex Nut (Plastic)	2

In order to have your right angle crossfold machine carry to the right as it exits the folder, the crosscarrier is used with simple repositioning of components. No additional drilling or tapping of holes is required. A few parts contained in the conversion kit will have to be exchanged. Reference numbers in the instructions refer to parts in drawing at bottom of page 24.

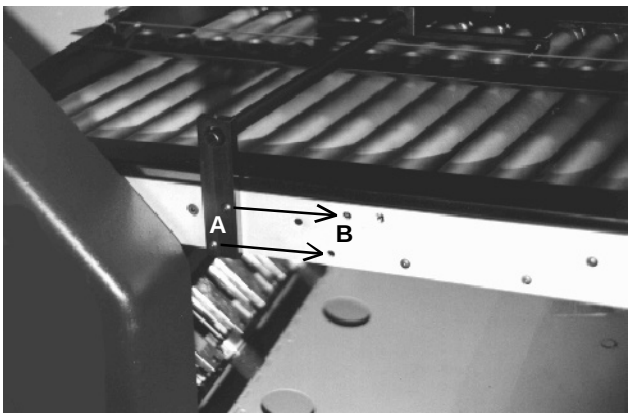
INSTRUCTIONS TO REPOSITION THE ROLLER ASSEMBLY FOR RH DELIVERY TO THE RIGHT ANGLE PARALLEL UNIT.

1. Remove any hold-downs or deflectors from the crossfold assembly.
2. Remove all the marbles from the marble holder.
3. Loosen and remove the mounting screws holding the crosscarrier assembly to the parallel unit and take it off the machine.
4. Remove the marble holder assembly by loosening the setscrews in the marble holder shaft mounting blocks, (fig. 39).
5. Remove the belt cover guards (held with one screw in the middle of the frame).



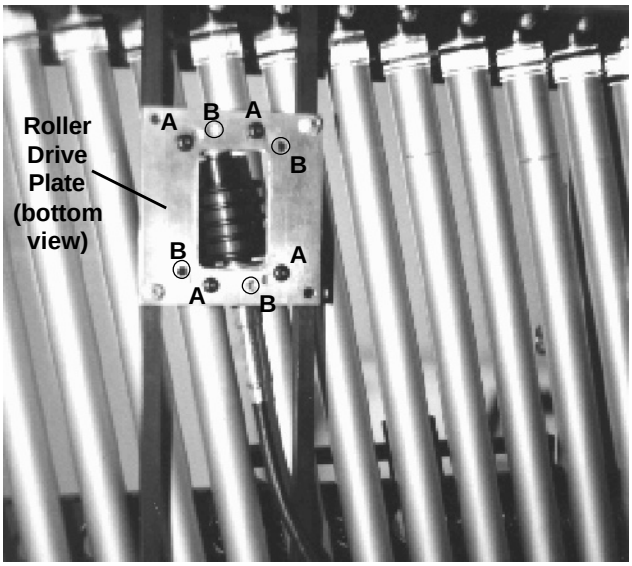
(fig. 39)

6. Remove the taper plates.



(fig. 40)

7. Remove the marble holder shaft mounting blocks (2) from their original "A" position and reinstall them to the "B" position, fig. 40.
8. Remove the entire roller assembly by loosening the mounting screws (4 on each side) that hold the roller mounting rails to the frame.



(fig. 41)

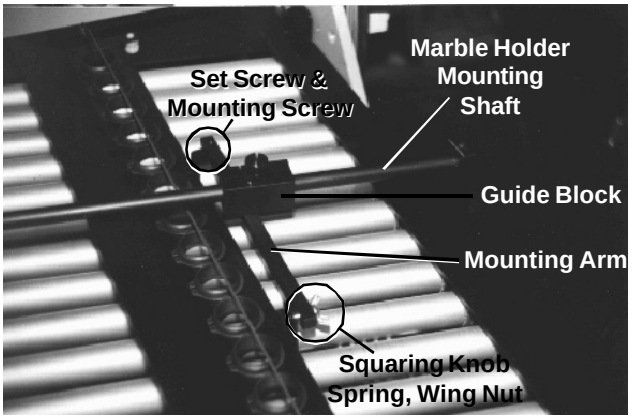
9. Remove the four (4) screws, (fig. 41, pg 23), mounting the roller drive blocks and reposition from the “A” mounting holes to the “B” holes (ill. 8, INSET A).

10. Grasp the roller assembly mounting rails and while turning the rollers slightly, shift the assembly so that the rollers are positioned at the opposite angle as shown in illustration 7.

11. Reassemble the cross carrier assembly to the frame by mounting in the appropriate holes.

12. Taper plates should be flipped end to end and remounted to the crosscarrier frame. (NOTE: The mounting blocks (ill. 8, ref. #10) supporting the wide end of the taper plates will have to be removed and remounted onto the opposite side of the frame.)

Replace the factory installed LH marble holder assembly with the RH part supplied in the kit.



(fig. 42)

13. Remove the marble holder mounting shaft.

14. Remove the squaring assembly hardware: squaring knob, wing nut, and spring, (fig. 42).

15. Remove the original LH marble holder by loosening the setscrew and removing the mounting screw, (fig. 42). Reassemble with the new RH marble holder.

16. Remove the marble shaft guide block (ill. 8, ref. #22), rotate it 180°, and reassemble to the marble holder mounting arm (ref. #23).

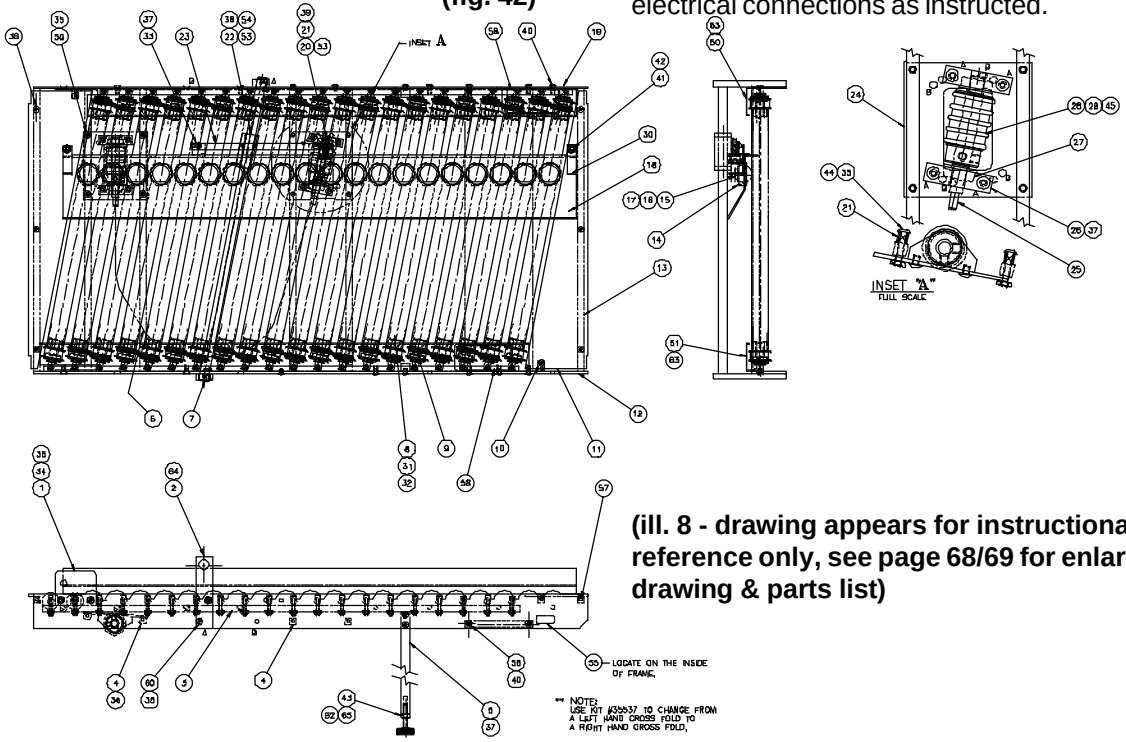
17. Replace the squaring assembly hardware removed in step number 14 & 15 above.

18. Slide the marble holder mounting shaft through the guide block and reassemble to the shaft mounting blocks on the edges of the crosscarrier frame.

19. Adjust the plastic support screws (ill. 8, ref. #41) on the ends of the marble holder so the holder is level and does not touch any of the rollers. Lock into position with the plastic lock nuts (ref. #42).

20. Position the new drive belt covers (ill. 8, ref. #50 & 51) from the kit over the ends of the crosscarrier rollers, (fig. 39). Secure with the single button head screw (ref. #38).

21. Reinstall the crosscarrier assembly into the parallel unit. Follow the Right Angle Crossfold Installation Instructions on page 20 to position the reoriented crossfold system behind the Medalist folder and make all electrical connections as instructed.


INSET A
INSET "A"
FULL SCALE
LOCATE ON THE INSIDE OF FRAME.
** NOTE:
USE KIT #32537 TO CHANGE FROM A LEFT HAND CROSS FOLD TO A RIGHT HAND CROSS FOLD.

(ill. 8 - drawing appears for instructional reference only, see page 68/69 for enlarged drawing & parts list)

MAINTENANCE

Cleaning
Take a few minutes at the end of each day to wipe off accumulations of paper dust. Cover your machine when not in use. These practices will keep your machine clean and in tip-top operating condition.

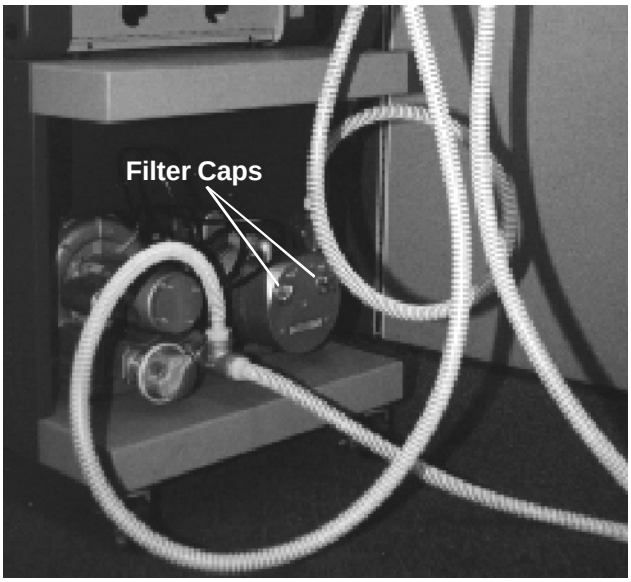
Rollers
Keep fold rollers clean. Most folding problems are the result of material accumulations on the fold rollers. Although designed to minimize accumulations, over a period of time, ink and dust buildup will prevent the rollers from gripping the stock evenly. Rollers must be cleaned on a regular basis to maintain optimum folding performance.

WARNING: Always disconnect the power cord before cleaning! Rollers have a strong grip. Keep tools, clothing, hair and cleaning rags away from rollers. Severe injuries and machine damage could result from items being caught in rollers. Do not operate folder with guards or fold plates removed.

Disconnect the power, remove the fold plates and clean rollers with blanket wash **(not type wash)** or a commercial product designed for the type of rollers your machine is equipped with. Turn the rollers with the handwheel ***never*** attempt to clean rollers with the machine running – see Warning above.
Check rollers periodically for wear. During normal use fold rollers will gradually wear. Worn rollers will be evident by increased setup times, increased spoilage, inaccurate folding, and inability to control the sheet. If one or more of these conditions are noted, contact your authorized Challenge folder dealer to inquire about inspection and/or possible roller replacement.

Vacuum Pump–Compressor
Filters – Because the printing process produces large amounts of paper dust as well as offset powder, regular inspection and cleaning of pump filters is an important part of folder maintenance. Filters should be removed, (fig. 43), and blown out at least weekly, more if you are running large, long-run jobs. Filters should be washed periodically with a cleaning solvent and dried thoroughly before replacement.
If filters become difficult to clean or deteriorate, they should be replaced immediately. Replace any filters which become contaminated with oil or grease.

Pump Vanes – To prevent dirt and dust buildup from causing the pump vanes to stick or break, the pump should be flushed periodically. Use a nonflammable safety solvent. Remove the hoses, disconnect the filters and pour several teaspoons of solvent through the intake into a rag held over the opposite side.



(fig. 43)

Pump Lubrication – Your Challenge folder uses an oil-less pump and motor. ***Do Not*** Attempt to lubricate the pump or motor.

MAINTENANCE
(CONTD.)

General Inspection
All moving parts are subject to wear. Periodic inspection will avoid machine failure in the middle of critical job runs. Inspection should cover the following list of items:

Hoses – Inspect for cracks and leaks. Replace as necessary.

Drive Belts – All belts stretch and wear. Check and replace as necessary. Keep replacement parts on hand.

Register Tapes and Stacker Belts – Check for signs of wear, alignment, and proper tension. Schedule replacement before they fail on a critical job.

Rubber Wheels – Pullout tires, scoring wheels, and stacker wheels should be inspected also. Make sure they are in good condition to insure consistent delivery of folded pieces, consistent stacking, and accurate folds. Keep extra score wheels on hand and make sure stacker wheels rotate freely.

DC Motor Brushes – Motor brushes should be inspected approximately every three months. If worn to 1/4" (7mm) or less replace the brushes.

Lubrication
To ensure long life, lubricate your machine weekly or after every 8 hours of use. The best time to lubricate your machine is early in the week before start-up. This allows the lubricants to work into the parts as the machine is operated rather than simply running off. Oil and grease locations are listed below.
For oil locations, use a Non-Detergent, #30 weight oil or approved equivalent. Be careful not to over-oil. Oil left on rollers will cause them to swell, which will interfere with folder performance. For grease locations use Amoco Amalith #2 (Challenge Part #6614) or approved equivalent. Wipe off any excess.

Oil Locations:	**Model 820**	**Model 870**
✍ Sucker Drive Shaft Bearings	page 30, ref. no. 60	page 36, ref. no. 59
✍ All Roller Bearings	Not Applicable	page 36, ref. no. 64
✍ Stacker Drive Shaft Bearings	page 32, ref. no. 40 & 17	page 38, ref. no. 40 & 17
✍ Caliper Assembly Bearings	Not Applicable	page 36, ref. no. 64
Grease Locations:		
✍ All Roller Gears	page 32, ref. no. 1	page 38, ref. no. 1
✍ Slitter Drive Gears	page 30, ref. no. 32 & 68	page 36, ref. no. 30 & 65
✍ Slitter & Handwheel Needle Bearings	page 28, ref. no. 37 page 30, ref. no. 28 page 32, ref. no. 32	page 34, ref. no. 36 page 36, ref. no. 26 page 38, ref. no. 32

NOTE: The vacuum-pump unit is of an oil-less type. Do not attempt to lubricate the pump or motors.

Service
Authorized Challenge Dealers are located throughout the United States, Canada and the world. They have factory-trained service personnel on staff to handle all your service needs. **Call 1-616-842-8300 for the dealer nearest you.**

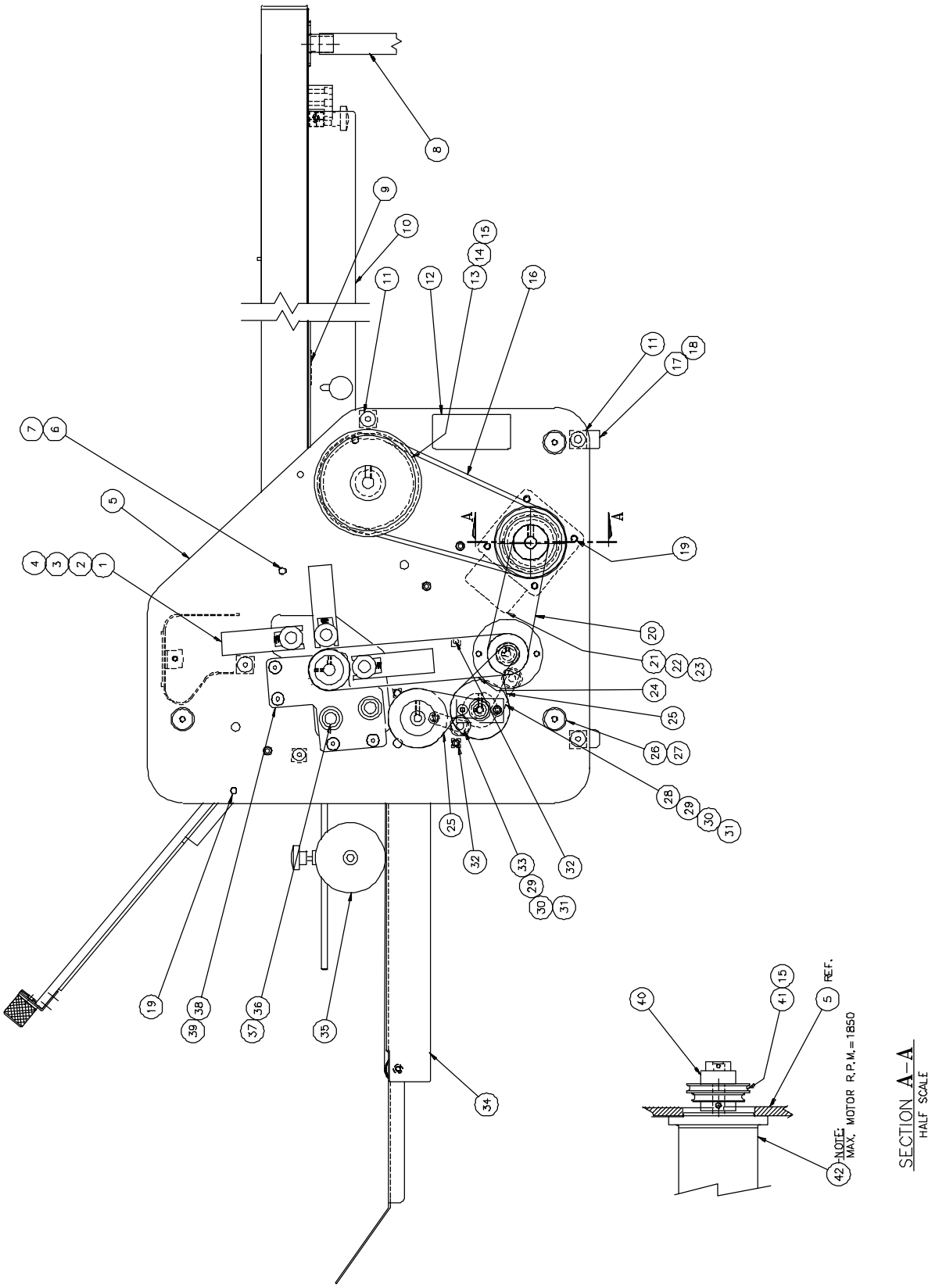
⚠ NOTICE ⚠

The instructions on the following pages are for the use of trained service personnel only!

Attempting to perform repair and replacement procedures without proper training may cause machine damage or operator injury!

PARTS CUSTOMERS: The Challenge Machinery Company provides parts with the express understanding that they are to replace parts found missing or no longer serviceable on equipment designed and/or manufactured by Challenge. The Challenge Machinery Company assumes no liability for any modification or alteration to any Challenge products, and any such modification or alteration to any Challenge products is not authorized by The Challenge Machinery Company. Any modification or alteration of any Challenge product will void any remaining warranty.

MODEL 820 MAIN ASSEMBLY - Left Hand Side
35300 SHEET 1 OF 3



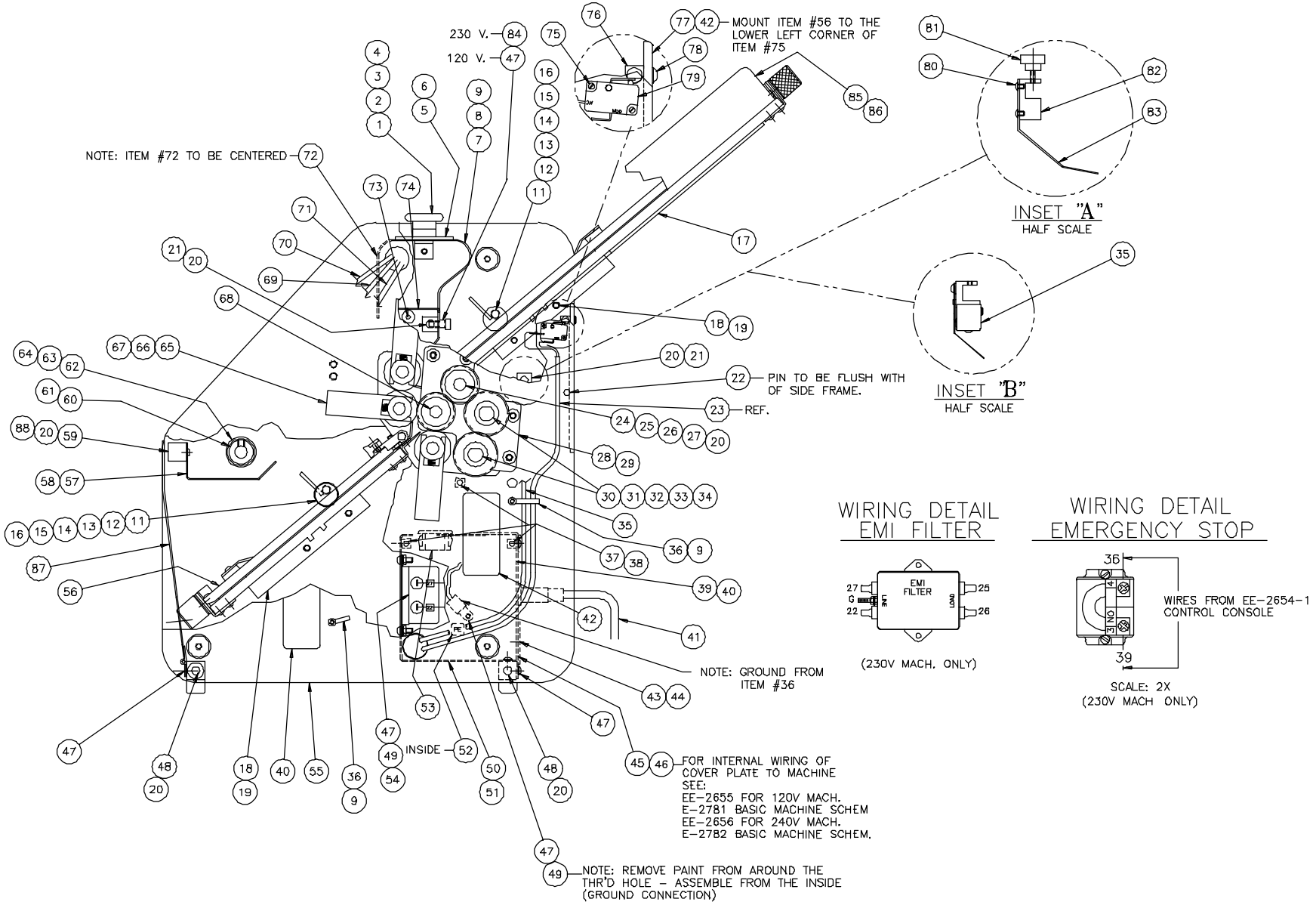
MODEL 820 MAIN ASSEMBLY - Left Hand Side
35300 SHEET 1 OF 3

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35282	BLOCK – CALIPER	3
2	35283	BEARING – CALIPER	3
3	7922	SPRING	3
4	H–6909–405	SCREW – 1/4–20 x 5/8 FL. HD.	6
5	35454	SIDE FRAME ASSEMBLY – L.H.	1
6	35212	SPACER – FEEDER SUPPORT	2
7	H–6910–506	SCREW – 5/16–18 x 3/4 BUT. HD.	2
8	P–275	HOSE – 3/4 x 75"	3
9	S–1781–16	LABEL – CAUTION	1
10	35100–2	FEED TABLE ASSEMBLY	1
11	H–6909–506	SCREW – 5/16–18 x 3/4 FL. HD.	5
12	S–1781–15	LABEL – CAUTION	1
13	35264	PULLEY – FEEDER DRIVEN	1
14	11288–15	WASHER / SPACER	1
15	H–6964–404	SET SCREW – 1/4–20 x 1/4 BRASS TIP SOC.	2
16	35265	BELT – "O" RING	1
17	A–11074	FEET – RUBBER	4
18	H–6910–102404	SCREW – 10–24 x 1/2 BUT. HD.	4
19	H–6918–406	SCREW – 1/4–20 x 3/4 SOC. HD.	4
20	A–11273	BELT – TIMING	1
21	E–894	CABLE STRAIN RELIEF	1
22	E–1237–6	WIRE NUT	2
23	EE–2350	CABLE ASSEMBLY – MOTOR	1
24	7954–1	BELT – TIMING	1
25	36094	BELT – TIMING	2
26	35461	STAND OFF – COVER	6

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
27	H–6910–405	SCREW – 1/4–20 x 5/8 BUT. HD.	6
28	36110	PLATE – TENSIONER	1
29	36113	PIN – BELT TENSIONER	2
30	35114	ROLLER – GUIDE	2
31	H–6910–83203	SCREW – 8–32 x 3/8 BUT. HD.	2
32	H–6918–102405	SCREW – 10–24 x 5/8 SOC. HD.	4
33	36111	PLATE – TENSIONER	1
34	35128–1	STACKER ASSEMBLY	1
35	35198	STACKER WHEEL ASSEMBLY	1
36	35009	SHAFT – SLITTER	2
37	35010–1	BUSHING – SLITTER	2
38	35199–1	BRACKET ASM. MAIN ROLLER – L.H.	1
	35029	BEARING – BALL	1
39	H–6909–406	SCREW – 1/4–20 x 3/4 FL. HD. SOC.	4
40	35034	PULLEY – TIMING	1
41	35263	PULLEY – FEEDER DRIVE	1
42	E–1600–148	MOTOR 120 V.	1
	E–1600–153	MOTOR 240 V.	
43	A–11091	FOLDING CHART (NOT SHOWN)	1
44	35079	FOLDING CHART (NOT SHOWN)	1
45	PP–270	AIR PUMP ASM., 120V (NOT SHOWN)	1
	PP–274	AIR PUMP ASM., 240V (NOT SHOWN)	
46	35266	KIT – TABLE EXTENSION (240V ONLY)	1
47	35239–1	PIN – FEEDER LATCH (NOT SHOWN)	1
48	35261	WIRE TIE, BEADED (NOT SHOWN)	1
49	AA–11214	ACCESSORY KIT (NOT SHOWN)	1

MODEL 820 MAIN ASSEMBLY - Right Hand Side

35300 SHEET 2 OF 3 REV 'C'


230 V. 84
120 V. 47
MOUNT ITEM #56 TO THE LOWER LEFT CORNER OF ITEM #75
NOTE: ITEM #72 TO BE CENTERED
INSET "A"
HALF SCALE
INSET "B"
HALF SCALE
PIN TO BE FLUSH WITH OF SIDE FRAME.
REF.
NOTE: GROUND FROM ITEM #36
INSIDE
FOR INTERNAL WIRING OF COVER PLATE TO MACHINE SEE:
EE-2655 FOR 120V MACH.
E-2781 BASIC MACHINE SCHEM
EE-2656 FOR 240V MACH.
E-2782 BASIC MACHINE SCHEM.
NOTE: REMOVE PAINT FROM AROUND THE THR'D HOLE - ASSEMBLE FROM THE INSIDE (GROUND CONNECTION)
WIRING DETAIL EMI FILTER
EMI FILTER
(230V MACH. ONLY)
WIRING DETAIL EMERGENCY STOP
WIRES FROM EE-2654-1 CONTROL CONSOLE
SCALE: 2X
(230V MACH ONLY)

WHITAKER BROTHERS SINCE 1945
800-243-9226

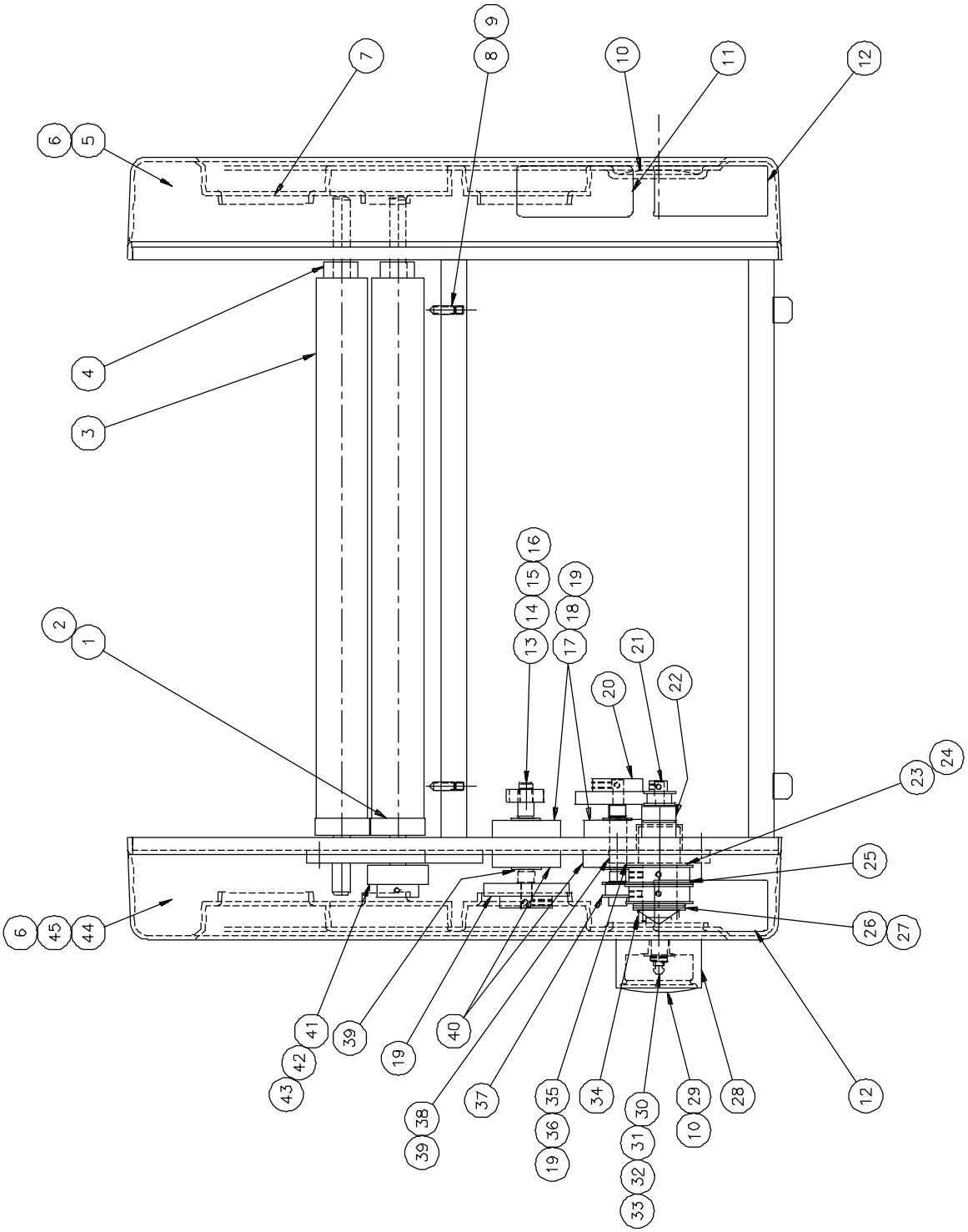
MODEL 820 MAIN ASSEMBLY - Right Hand Side
35300 SHEET 2 OF 3 REV. 'C'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	E-2627-1	SWITCH - MUSHROOM HD, TWIST ON(230V ONLY)	1
2	E-1839-2	CONTACT - N.C. WITH BASE (230V ONLY)	1
3	E-2757	LABEL - LEGEND PLATE, YELLOW (230V ONLY)	1
4	E-2196-11	PLUG (120 V. ONLY)	1
5	EE-2780	PANEL ASSEMBLY - CONTROL, 120V	1
6	35489	LABEL - COUNTER, MEDALIST 820	1
7	35458	COVER - ROLLER / ELECT BOX	1
8	35460	BRACKET - ELECT PANEL COVER	2
9	H-6910-102404	SCREW - #10-24 x 1/2 BUTTON HD.	6
10			
11	35012-1	LOCK - FOLD PLATE	4
12	11288-20	WASHER/SPACER	4
13	S-1681-3	WASHER - 3/8 WAVE	4
14	H-5246-308	DOWEL PIN - 3/16 x 1"	4
15	H-5254-604	SCREW - 3/8 DIA. x 1/2 SHOULDER	4
16	20075-6	SHIM	4
17	35061	FOLD PLATE ASM. #1	1
18	35011	BAR - FOLD PLATE	4
19	H-6918-406	SCREW - 1/4-20 x 3/4 SOC HD.	4
20	H-6909-506	SCREW - 5/16-18 x 3/4 FLAT HD.	6
21	35020	TIE BAR	2
22	H-21S-250-0750	ROLL PIN - 1/4 x 3/4	1
23	EE-2760	CABLE ASM. - INTERLOCK SWITCH	REF.
24	S-1193-5D	"E" RING - RETAINING	1
25	35221	PIN - SLITTER IDLER	1
26	35191	GEAR - IDLER (SLITTER DRIVE)	1
27	11288-15	NYLON - WASHER	2
28	35200-1	BRACKET ASSEMBLY MAIN ROLLER - R.H.	1
29	H-6909-406	SCREW - 1/4-20 x 3/4 FLAT HD.	4
30	S-1073-62	RETAINING RING	2
31	35219-1	PIN - ASM. - SLITTER	2
32	A-11048	GEAR - SLITTER	2

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
33	AA-10386	HUB ASM. - PULLOUT	4
34	11288-11	WASHER	6
35	EE-2607	JAM DETECTOR	1
36	S-1694-2	TIE - CABLE	4
37	35021	BAR - SHEET DETECTOR	3
38	H-6918-102405	SCREW - #10-24 x 5/8 SOC. CAP	4
39	5177-1	LABEL - UL (120 V. ONLY)	1
	5177-2	LABEL - UL/CSA (120 V ONLY)	
	5177-5	LABEL - CE MARK (230 V. ONLY)	
40	S-1781-12	LABEL - CAUTION, ELEC. SHOCK (120 V. ONLY)	2
	S-1781-35	LABEL - CAUTION, ELEC. SHOCK (230 V ONLY)	
41	E-2649	POWER CORD-120 V.	1
	E-2342	POWER CORD-240 V.	
42	S-1781-15	CAUTION LABEL	2
43	35159	LABEL - BACK COVER - 120V	1
	35213	LABEL - BACK COVER - 230V	
44	H-6924-004	SCREW - #0 x 1/4" RD. HD. DRIVE	3
45	EE-2655	BACK COVER ASM. - 120 V	1
	EE-2656	BACK COVER ASM. - 230 V.	
46	S-1694	TIE - CABLE	4
47	H-6910-102403	SCREW - #10-24 x 3/8 BUT. HD. (120V ONLY)	17
	H-6910-102403	SCREW - #10-24 x 3/8 BUT. HD (230V ONLY)	19
48	35006	TIE BAR	2
49	H-7324-#10	WASHER - #10 INT. LOCK (120V ONLY)	1
	H-7324-#10	WASHER - #10 INT. LOCK (230V ONLY)	3
50	35162	COVER - BACK PLATE	1
51	E-1237-6	WIRE NUT	2
52	S-1781-45	LABEL - "PE" PROTECTED EARTH (230V ONLY)	1
54	E-1172-10	BUSHING - SNAP IN	1
54	E-2730-2	FILTER - EMI (230V ONLY)	1
55	35452	SIDE FRAME ASM. - R.H.	1
56	35080	FOLD PLATE ASM. #2	1

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
57	35057	GUARD - SUCKER WHEEL DRIVE	1
58	H-6910-832D3	SCREW - #8-32 x 3/8 BUT. HD. SOC.	2
59	35006-1	TIE BAR	1
60	A-10644-2	COLLAR - 1/2	1
61	35257	SHAFT - SUCKER DRIVE PULLEY	1
62	35254	PULLEY - SUCKER DRIVE	1
63	H-6964-404	SET SCREW - 1/4-20 x 1/4 BRASS TIP	2
64	35179-1	"O" RING - URETHANE	5
65	35282	BLOCK - CALIPER	3
66	35283	BEARING - CALIPER	3
67	7922	SPRING	3
68	35190	GEAR - SLITTER DRIVE	1
69	EE-2602	CABLE ASM. - TRANSFORMER	1
70	EE-2660	CABLE ASM. - COMPRESSOR SWITCH	1
71	EE-2340	CABLE ASM. - POTENTIOMETER	REF.
72	S-1781-48	CAUTION LABEL	1
73	H-6909-405	SCREW - 1/4-20 x 5/8 FLAT HD.	6
74	35078	GUARD - ROLLER	1
75	H-6923-44D1D	SCREW - #4-40 x 5/8 ROUND HD.	2
76	35036	SUPPORT - REAR GUARD	1
77	35056	GUARD - REAR	1
78	H-6910-832D4	SCREW - #8-32 x 1/2 BUT. HD. SOC.	2
79	E-866-9	SWITCH	1
80	H-6920-103202	SCREW - #10-32 x 1/4 BUT. HD.	4
81	8278-1	KNOB	2
82	35237	CLAMP - GUIDE STACKER	2
83	35149	GUIDE - STACKER	2
84	H-5254-403	SCREW - 1/4 x 3/8 SHOULDER (230 V ONLY)	2
85	35154	SOUND COVER (230 V ONLY)	1
86	35240	FOAM (230 V ONLY)	1
87	35464	SOUND COVER DOOR (230 V ONLY)	1
88	35163	MAGNETIC STRIP (230 V ONLY)	1

MODEL 820 MAIN ASSEMBLY - Front View
35300 SHEET 3 OF 3

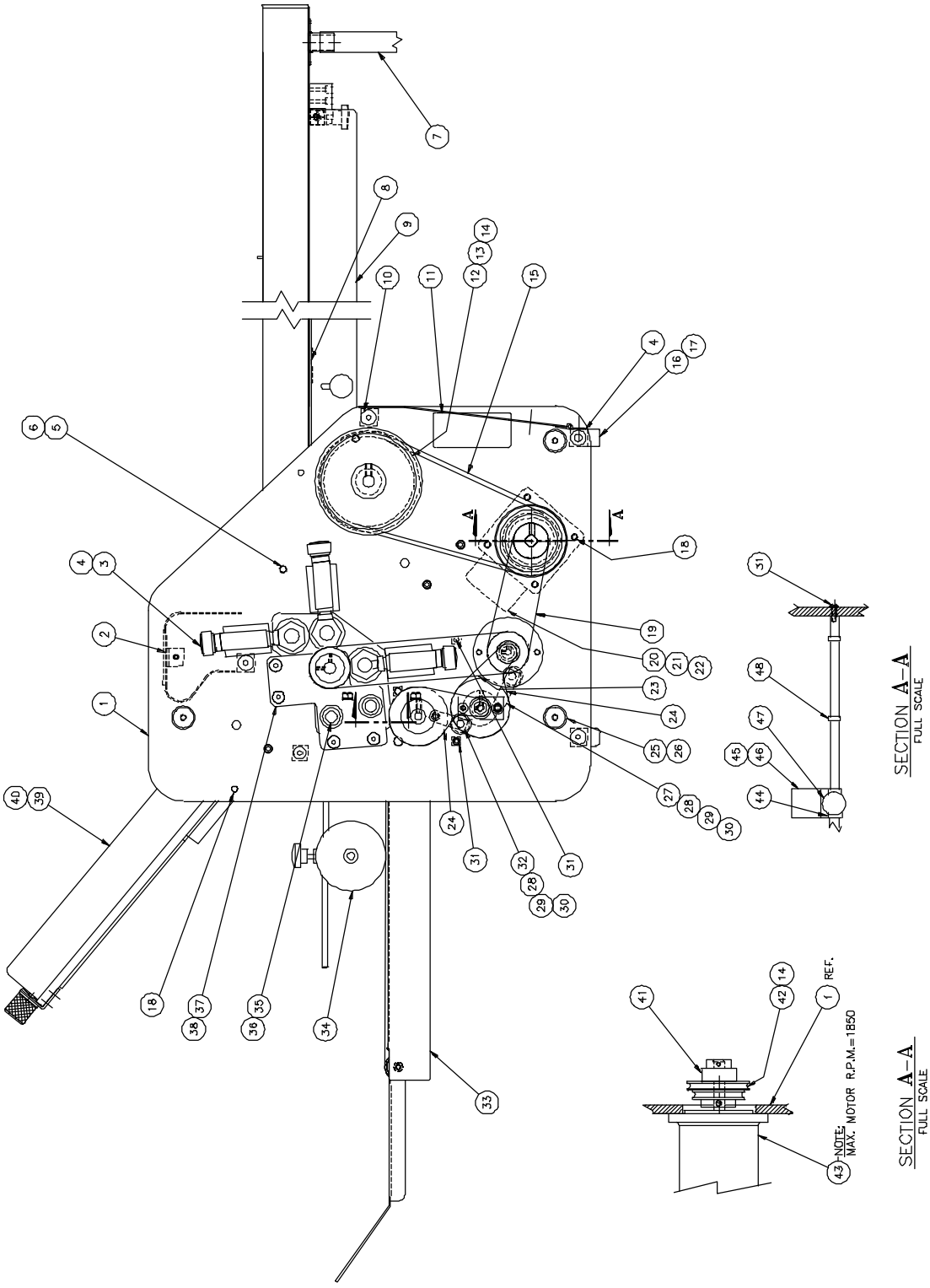


MODEL 820 MAIN ASSEMBLY - Front View
35300 SHEET 3 OF 3

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35052	GEAR – SPUR	4
2	H–6121–604	3/8 x 1/8 WORDED	4
3	35051	RUBBER ROLLER	4
4	A–10644–2	COLLAR	4
5	35455	COVER R.H.	1
6	AA–10330–1	SCREW – PANEL	6
7	35468	LABEL – ROUND BLANK, 3.44"	6
8	H–6945–405	SET SCREW – 1/4–20 x 5/8 CONE PT. SOC.	2
9	H–6940–404	SET SCREW – 1/4–20 x 1/4 FLAT PT. SOC.	2
10	35457	LOGO – HAND WHEEL	2
12	S–1781–12	LABEL – CAUTION (120 V.)	1
	S–1781–35	LABEL – CAUTION (230 V.)	2
11	S–1781–15	LABEL – CAUTION	2
13	36097	GEAR – PIN	1
14	35223–1	GEAR – STACKER DRIVE	1
15	H–6121–503	3/32 x 5/16 WORDED	1
16	S–1193–37	3/8 RETAINING RING	1
17	35205	SUPPORT BLOCK ASM.	2
18	H–6918–414	SET SCREW – 1/4–20 x 1–3/4 SOC. HD.	4
19	H–6423–4	NUT – 1/4–20 HEX.	6
20	36091	PULLEY – 10DT	2
21	36093	PULLEY – 28T	1
22	36095	SHAFT – DRIVE	1

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
23	S–1073–100	RETAINING RING	2
24	11288–21	NYLON – WASHER	2
25	35033	PULLEY – TIMING	2
26	S–1295–7	RACE – THRUST BEARING	2
27	S–1300–1	THRUST BEARING	1
28	35209	HAND WHEEL ASM.	1
29	35232	PLUG – HAND WHEEL	1
30	35210–2	SHAFT CONNECTING	1
31	S–1073–50	RING – RETAINING 1/2	1
32	S–1725	FITTING – LUBRICATION (GREASE)	1
33	H–6938–102404	SET SCREW – #10–24 x 1/4 SOC.	2
34	35211	SPRING HAND WHEEL	1
35	35273	SUPPORT ASM. HAND WHEEL SHAFT	1
36	H–6918–408	SCREW – 1/4–20 x 1" SOC. HD. CAP	2
37	36092	PULLEY – 30T	1
38	36096	PIN – PULLEY	1
39	S–1193–50	E – RETAINING RING	4
40	35248	SUPPORT BEARING ASM.	2
41	35032	PULLEY – TIMING	1
42	11288–15	NYLON – SPACER	2
43	11288–2	NYLON – WASHER	1
44	35456	COVER L.H.	1
45	35466	LABEL – COVER, MEDALIST 820	1

MODEL 870 MAIN ASSEMBLY - Left Hand Side
35450 SHEET 1 OF 3



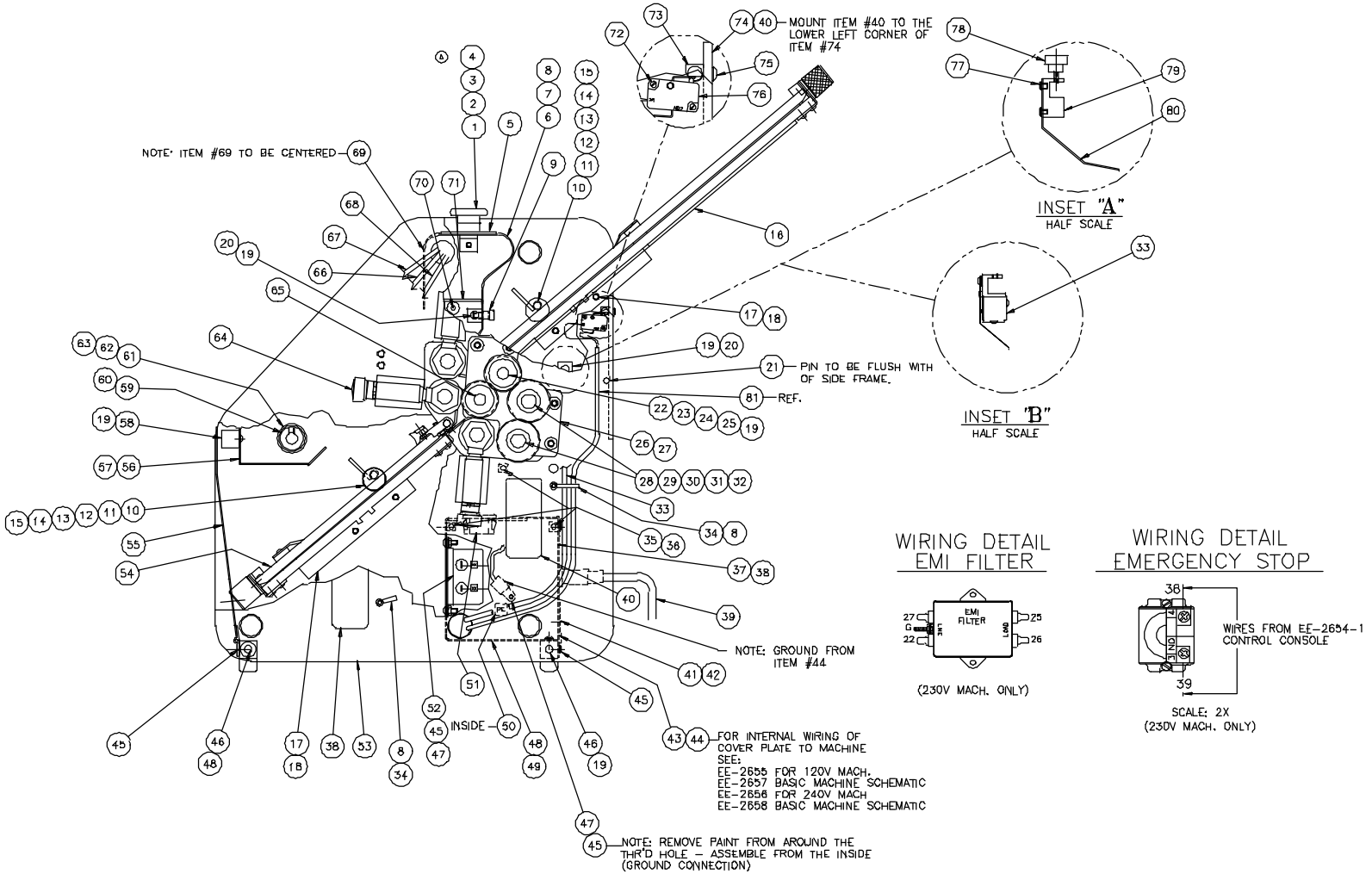
MODEL 870 MAIN ASSEMBLY - Left Hand Side
35450 SHEET 1 OF 3

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35454	SIDE FRAME ASM. – L.H.	1
2	35007	BRACKET – COVER	2
3	35041	CALIPER	3
4	H–6909–405	SCREW – 1/4–20 x 5/8 FL. HD.	6
5	35212	SPACER – FEEDER SUPPORT	2
6	H–6910–506	SCREW – 5/16–18 x 3/4 BUT. HD.	2
7	P–275	HOSE – 3/4 x 75"	3
8	S–1781–16	LABEL – CAUTION	1
9	35100–2	FEED TABLE ASSEMBLY	1
10	H–6909–506	SCREW – 5/16–18 x 3/4 FL. HD.	5
11	S–1781–15	LABEL – CAUTION	1
12	35264	PULLEY – FEEDER DRIVEN	1
13	11288–15	WASHER / SPACER	1
14	H–6964–404	SETSCREW – 1/4–20 x 1/4 BRASS TIP SOC.	2
15	35265	BELT – "O" RING	1
16	A–11074	FEET – RUBBER	4
17	H–6910–102404	SCREW – 10–24 x 1/2 BUT. HD.	4
18	H–6918–406	SCREW – 1/4–20 x 3/4 SOC. HD.	4
19	A–11273	BELT – TIMING	1
20	E–894	CABLE STRAIN RELIEF	1
21	E–1237–6	WIRE NUT	2
22	EE–2350	CABLE ASSEMBLY – MOTOR	1
23	7954–1	BELT – TIMING	1
24	36094	BELT – TIMING	2
25	35461	STAND OFF – COVER	6
26	H–6910–405	SCREW – 1/4–20 x 5/8 BUT. HD.	6
27	36110	PLATE – TENSIONER	1
28	36113	PIN – BELT TENSIONER	2
29	35114	ROLLER – GUIDE	2

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
30	H–6910–83203	SCREW – #8–32 x 3/8 BUT. HD.	2
31	H–6918–102405	SCREW – #10–24 x 5/8 SOC. HD.	4
32	36111	PLATE – TENSIONER	1
33	35128–1	STACKER ASM.	1
34	35198	STACKER WHEEL ASM.	1
35	35009	SHAFT – SLITTER	2
36	35010–1	BUSHING – SLITTER	2
37	35199–1	BRACKET ASM. MAIN ROLLER – L.H.	1
	35029	BEARING – BALL	1
38	H–6909–406	SCREW – 1/4–20 x 3/4 FLAT HD. SOC.	4
39	35154	SOUND COVER	1
40	35240	FOAM – SOUND COVER	1
41	35034	PULLEY – TIMING	1
42	35263	PULLEY – FEEDER DRIVE	1
43	E–1600–148	MOTOR 120 V.	1
	E–1600–153	MOTOR 240 V.	1
44	35188	CLAMP – SENSOR BRACKET	1
45	H–6910–63202	SCREW – #6–32 x 1/4 BUT. HD.	2
46	EE–2661	PHOTOSENSOR ASM.	1
47	8278–1	KNOB – KNURLED	1
48	S–1694	TIE – CABLE	2
49	35239–1	FEEDER LATCH PIN (NOT SHOWN)	1
50	35261	WIRE TIE, BEADED (NOT SHOWN)	1
51	35079	FOLDING CHART (NOT SHOWN)	1
52	A–11091	FOLDING CHART (NOT SHOWN)	1
53	AA–11214	ACCESSORY KIT (NOT SHOWN)	1
54	35266	KIT – TABLE EXTENSION (240V ONLY)	1
55	PP–270	AIR PUMP ASM., 120V (NOT SHOWN)	1
	PP–274	AIR PUMP ASM., 240V (NOT SHOWN)	1

MODEL 870 MAIN ASSEMBLY - Right Hand Side

35450 SHEET 2 OF 3 REV. 'A'


NOTE: ITEM #69 TO BE CENTERED
MOUNT ITEM #40 TO THE LOWER LEFT CORNER OF ITEM #74
INSET "A"
HALF SCALE
INSET "B"
HALF SCALE
PIN TO BE FLUSH WITH OF SIDE FRAME.
REF.
NOTE: GROUND FROM ITEM #44
INSIDE
FOR INTERNAL WIRING OF COVER PLATE TO MACHINE SEE:
EE-2655 FOR 120V MACH.
EE-2657 BASIC MACHINE SCHEMATIC
EE-2656 FOR 240V MACH
EE-2658 BASIC MACHINE SCHEMATIC
NOTE: REMOVE PAINT FROM AROUND THE THR'D HOLE - ASSEMBLE FROM THE INSIDE (GROUND CONNECTION)
WIRING DETAIL EMI FILTER
EMI FILTER
LINE
LOAD
(230V MACH. ONLY)
WIRING DETAIL EMERGENCY STOP
WIRES FROM EE-2654-1 CONTROL CONSOLE
SCALE: 2X
(230V MACH. ONLY)

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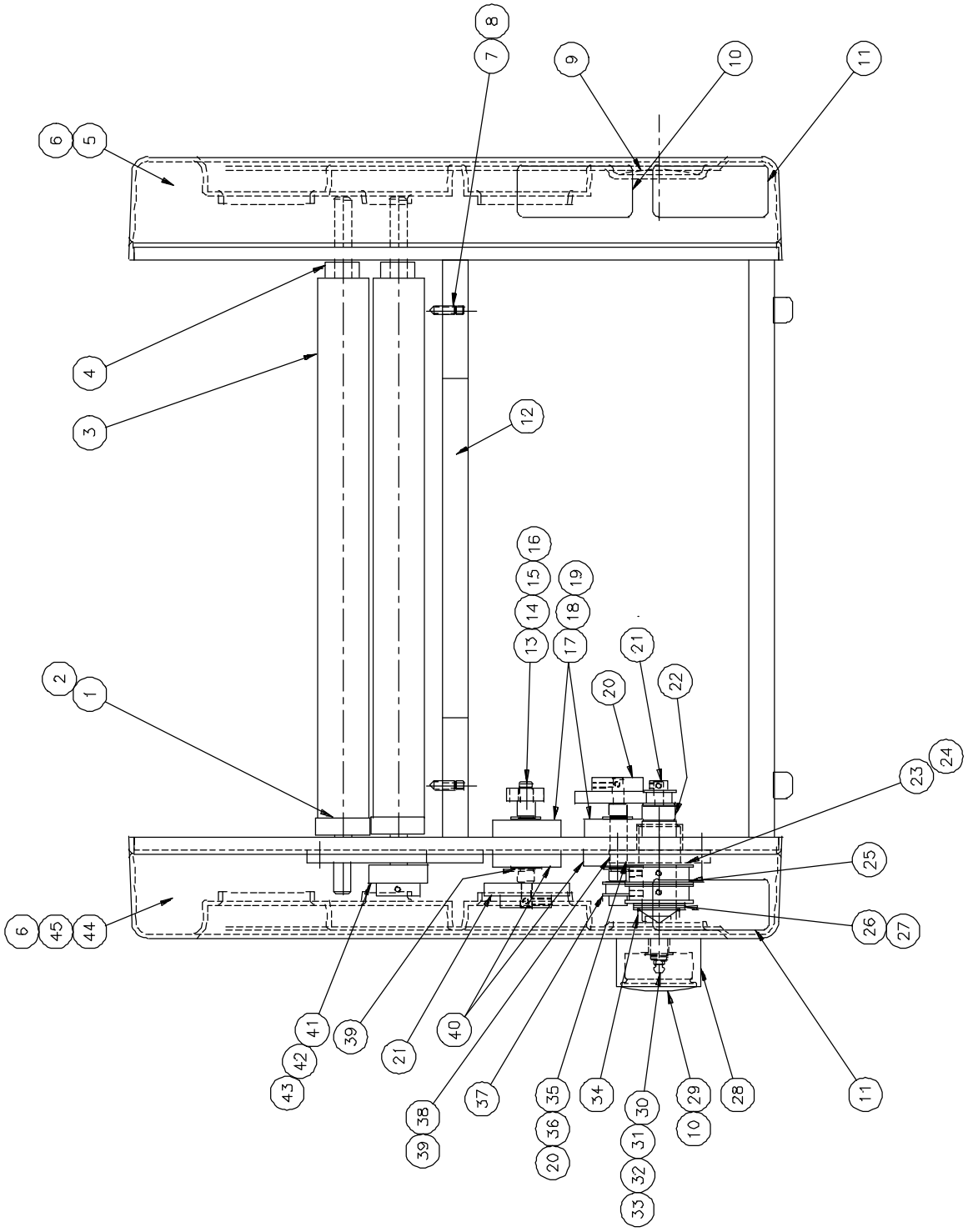
MODEL 870 MAIN ASSEMBLY - Right Hand Side
35450 SHEET 2 OF 3 REV. 'A'

NO.	PART NO	DESCRIPTION OF ACCESSORIES	QTY
1	E-2627-1	SWITCH - MUSHROOM HD, TWIST ON(230V ONLY)	1
2	E-1839-2	CONTACT - N.C. WITH BASE (230V ONLY)	1
3	E-2757	LABEL - LEGEND PLATE, YELLOW (230V ONLY)	1
4	E-2196-11	PLUG (120 V. ONLY)	1
5	EE-2654	PANEL ASSEMBLY - CONTROL, 120V	1
6	35458	COVER - ROLLER / ELECT BOX	1
7	35460	BRACKET - ELECT PANEL COVER	2
8	H-6910-102404	SCREW - #10-24 x 1/2 BUTTON HD.	6
9	H-5254-403	SCREW - 1/4 x 3/8 SHOULDER	2
10	35012-1	LOCK - FOLD PLATE	4
11	11288-20	WASHER/SPACER	4
12	S-1681-3	WASHER - 3/8 WAVE	4
13	H-5246-308	DOWEL PIN - 3/16 x 1"	4
14	H-5254-604	SCREW - 3/8 DIA. x 1/2 SHOULDER	4
15	20075-6	SHIM	4
16	35061	FOLD PLATE ASM. #1	1
17	35011	BAR - FOLD PLATE	4
18	H-6918-406	SCREW - 1/4-20 x 3/4 SOC HD.	4
19	H-6909-506	SCREW - 5/16-18 x 3/4 FLAT HD.	6
20	35020	TIE BAR	2
21	H-21S-250-0750	ROLL PIN - 1/4 x 3/4	1
22	S-1193-50	"E" RING - RETAINING	1
23	35221	PIN - SLITTER IDLER	1
24	35191	GEAR - IDLER (SLITTER DRIVE)	1
25	11288-15	NYLON - WASHER	2
26	35200-1	BRACKET ASM. - MAIN ROLLER	1
27	H-6909-406	SCREW - 1/4-20 x 3/4 FLAT HD.	4
28	S-1073-62	RETAINING RING	2
29	35219-1	PIN - ASM. - SLITTER	2
30	A-11048	GEAR - SLITTER	2
31	AA-10386	HUB ASM. - PULLOUT	4
32	11288-11	WASHER	6
33	EE-2607	JAM DETECTOR	1
34	S-1694-2	TIE - CABLE	4
35	35021	BAR - SHEET DETECTOR	3
36	H-6918-102405	SCREW - #10-24 x 5/8 SOC. CAP	5
37	5177-1	LABEL - UL (120 V. ONLY)	1
	5177-2	LABEL - UL/CSA (120 V. ONLY)	1
	5177-5	LABEL - CE MARK (230 V. ONLY)	1
38	S-1781-12	LABEL - CAUTION, ELEC. SHOCK (120 V. ONLY)	2
	S-1781-35	LABEL - CAUTION, ELEC. SHOCK (230 V. ONLY)	2
39	E-2649	POWER CORD-120 V.	1
	E-2342	POWER CORD-240 V.	1
40	S-1781-15	CAUTION LABEL	2
41	35159	LABEL - BACK COVER - 120V	1
	35213	LABEL - BACK COVER - 230V	1

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
42	H-6924-004	SCREW - #0 x 1/4" RD. HD. DRIVE	3
43	S-1694	TIE - CABLE	4
44	EE-2655	BACK COVER ASM. - 120 V.	1
	EE-2656	BACK COVER ASM. - 230 V.	1
45	H-6910-102403	SCREW - #10-24 x 3/8 BUT. HD. (120V ONLY)	15
	H-6910-102403	SCREW - #10-24 x 3/8 BUT. HD. (230V ONLY)	17
46	35006	TIE BAR	2
47	H-7324-#10	WASHER - #10 INT. LOCK (120V ONLY)	1
	H-7324-#10	WASHER - #10 INT. LOCK (230V ONLY)	3
48	35162	COVER - BACK PLATE	1
49	E-1237-6	WIRE NUT	2
50	S-1781-45	LABEL - "PE" PROTECTED EARTH (230V ONLY)	1
51	E-1172-10	BUSHING - SNAP IN	1
52	E-2730-2	FILTER - EMI (230V ONLY)	1
53	35452	SIDE FRAME ASM. - R.H	1
54	35080	FOLD PLATE ASM. #2	1
55	35464	FRONT PLATE ASM.	1
56	35057	GUARD - SUCKER WHEEL DRIVE	1
57	H-6910-83203	SCREW - #8-32 x 3/8 BUT. HD. SOC.	2
58	35006-1	TIE BAR	1
59	A-10644-2	COLLAR - 1/2	1
60	35257	SHAFT - SUCKER DRIVE PULLEY	1
	35258	BEARING - FLANGED	2
61	35254	PULLEY - SUCKER DRIVE	1
62	H-6964-404	SET SCREW - 1/4-20 x 1/4 BRASS TIP	2
63	35179-1	"O" RING - URETHANE	5
64	35041	CALIPER - ASM.	3
65	35190	GEAR - SLITTER DRIVE	1
66	EE-2602	CABLE ASM. - TRANSFORMER	1
67	EE-2660	CABLE ASM. - COMPRESSOR SWITCH	1
68	EE-2340	CABLE ASM. - POTENTIAMETER	REF.
69	S-1781-48	CAUTION LABEL	1
70	H-6909-405	SCREW - 1/4-20 x 5/8 FLAT HD.	6
71	35078	GUARD - ROLLER	1
72	H-6923-44010	SCREW - #4-40 x 5/8 ROUND HD	2
73	35036	SUPPORT - REAR GUARD	1
74	35056	GUARD - REAR	1
75	H-6910-83204	SCREW - #8-32 x 1/2 BUT. HD. SOC.	2
76	E-866-9	SWITCH	1
77	H-6920-103202	SCREW - #10-32 x 1/4 BUT. HD.	4
78	8278-1	KNOB	2
79	35237	CLAMP - GUIDE STACKER	2
80	35149	GUIDE - STACKER	2
81	EE-2760	CABLE ASM. - INTERLOCK SWITCH	REF.

MODEL 870 MAIN ASSEMBLY - Front View
35450 SHEET 3 OF 3



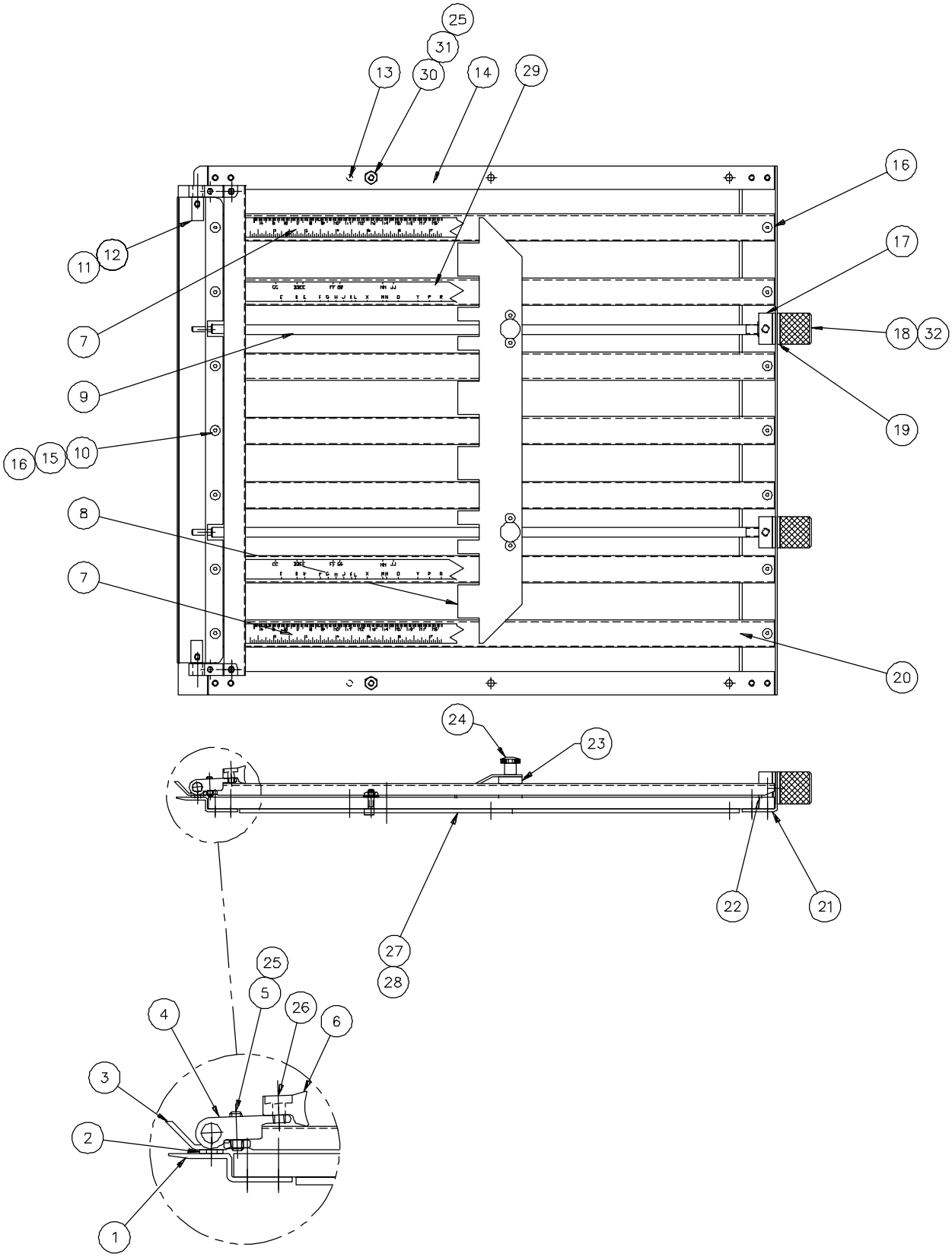
MODEL 870 MAIN ASSEMBLY - Front View
35450 SHEET 3 OF 3

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35052	GEAR – SPUR	4
2	H–6121–604	3/8 x 1/8 WOODRUFF	4
3	35055	COMBO ROLLER SRA3	4
4	A–10644–2	COLLAR	4
5	35455	COVER R.H.	1
6	AA–10330–1	SCREW – PANEL	6
7	H–6945–405	SETSCREW – 1/4–20 x 5/8 CONE PT. SOC.	2
8	H–6940–404	SETSCREW – 1/4–20 x 1/4 FLAT PT. SOC.	2
9	35457	LOGO – HANDWHEEL	2
10	S–1781–12	LABEL – CAUTION (120 V.)	1
	S–1781–35	LABEL – CAUTION (230 V.)	1
11	S–1781–15	LABEL – CAUTION	2
12	35163	STRIP – MAGNET	1
13	36097	GEAR – PIN	1
14	35223–1	GEAR – STACKER DRIVE	1
15	H–6121–503	3/32 x 5/16 WOODRUFF	1
16	S–1193–37	3/8 RETAINING RING	1
17	35205	SUPPORT BLOCK ASM.	2
18	H–6918–414	SCREW – 1/4–20 x 1–3/4 SOC. HD.	4
19	H–6423–4	NUT – 1/4–20 HEX.	6
20	36091	PULLEY – 100T	2
21	36093	PULLEY – 28T	1
22	36095	SHAFT – DRIVE	1

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
23	S–1073–100	RETAINING RING	2
24	11288–21	NYLON – WASHER	2
25	35033	PULLEY – TIMING	2
26	S–1295–7	RACE – THRUST BEARING	2
27	S–1300–1	THRUST BEARING	1
28	35209	HANDWHEEL ASM.	1
29	35232	PLUG – HANDWHEEL	1
30	35210–2	SHAFT CONNECTING	1
31	S–1073–50	RING – RETAINING 1/2	1
32	S–1725	FITTING – LUBRICATION (GREASE)	1
33	H–6938–102404	SCREW – #10–24 x 1/4 SOC. SET	2
34	35211	SPRING – HANDWHEEL	1
35	35273	SUPPORT ASM. HANDWHEEL SHAFT	1
36	H–6918–408	SCREW – 1/4–20 x 1" SOC. HD. CAP	2
37	36092	PULLEY – 30T	1
38	36096	PIN – PULLEY	1
39	S–1193–50	E – RETAINING RING	4
40	35248	SUPPORT BEARING ASM.	2
41	35032	PULLEY – TIMING	1
42	11288–15	NYLON – SPACER	2
43	11288–2	NYLON – WASHER	1
44	35456	COVER L.H.	1
45	35467	LABEL – COVER, MEDALIST 870	1

FOLDPLATE ASSEMBLY #1

35061 REV. 'C'



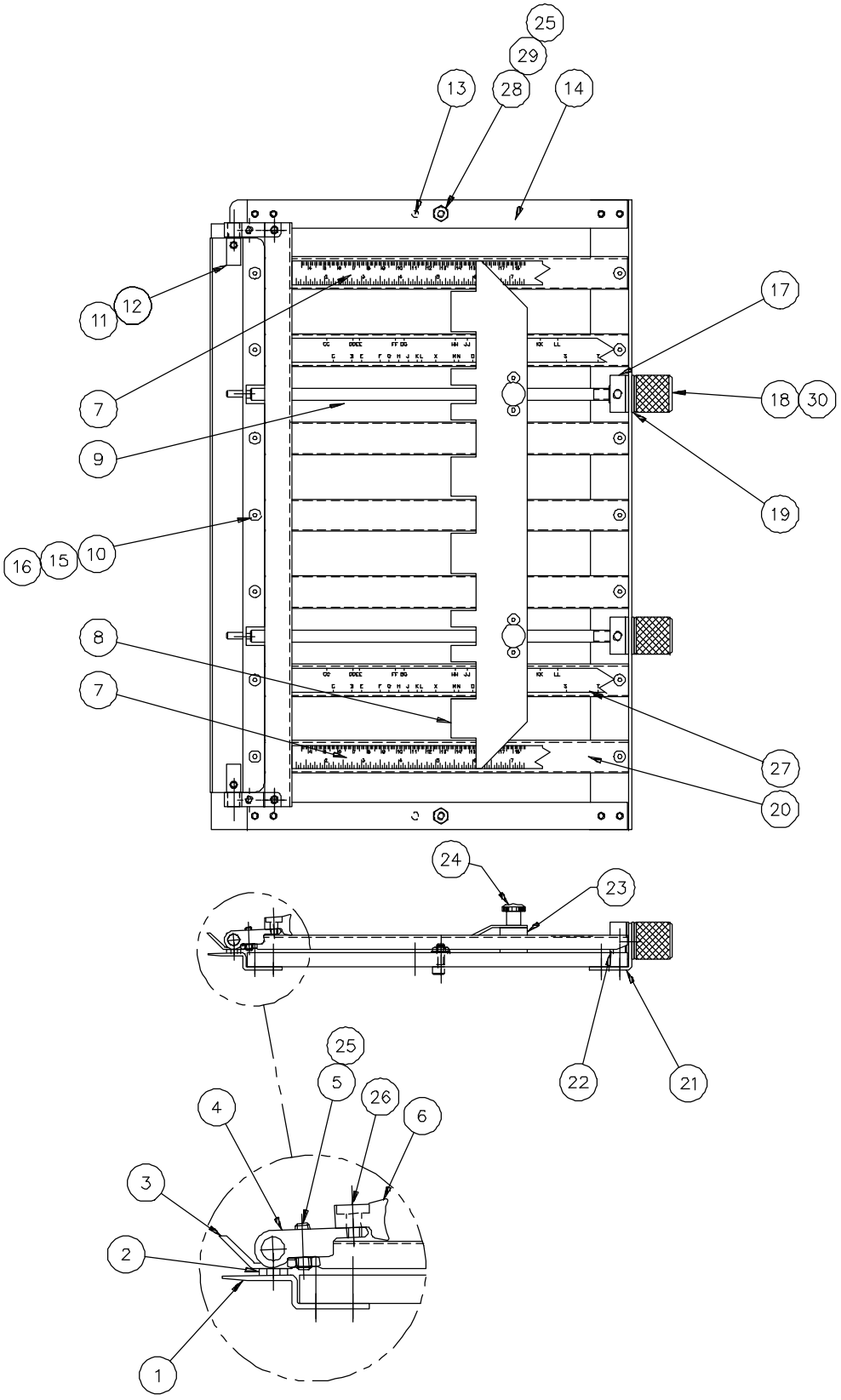
FOLDPLATE ASSEMBLY #1

35061 REV. 'C'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35063	NOSE PLATE	1
2	35184	SPACER	2
3	35062	NOSE PLATE – TOP	1
4	35068	HINGE	2
5	H–6940–102412	SCREW – #10–24 X 3/4 FLT. PT. SOC. SET	2
6	35070	DEFLECTOR	1
7	35069	SCALE – FOLDPLATE	2
8	35064	STOP	1
9	35073	SHAFT	2
10	H–6423–#8	NUT – #8–32 HEX FINISHED	14
11	H–6910–83204	SCREW – 8–32 x 1/2 BUTTON HD SOC CAP	2
12	35071	PIVOT–DEFLECTOR	2
13	H–21S–187–0500	PIN – 3/16 X 1/2 ROLL	2
14	35067	FOLDPLATE SUPPORT	2
15	H–7324–#8	WASHER – #8 INTER TOOTH LOCK	14
16	H–6910–83203	SCREW – #8–32 x 3/8 BUT HD SOC CAP	44
17	A–10644–2	COLLAR, 1/2" I.D. STEEL	2
18	35187	ADJUSTMENT KNOB	2
19	11288–10	WASHER/SPACER	4
20	35065	CHANNEL	14
21	35066	FOLD PLATE ANGLE	1
22	35185	SPACER	7
23	35072	GUIDE BLOCK–PAPER STOP	2
24	7957–5	ADJUSTMENT KNOB	2
25	H–6423–#10	NUT – #10–24 HEX	4
26	H–6910–102403	SCREW – #10–24 X 3/8 BUTTON HD	2
27	35186	PLATE–SOUND GRND. BOTTOM	1
28	35222	.01 X 1/2 3M ADHESIVE TSFR.	1
29	35075	SCALE – FOLDPLATE	2
30	35081	ECCENTRIC FOLD PLATE	2
31	H–7324–#10	WASHER – #10 INT. TOOTHLOCK	2
32	11116	LABEL – FOLDPLATE MICRO ADJUSTMENT	2

FOLDPLATE ASSEMBLY #2

35080 REV. 'D'



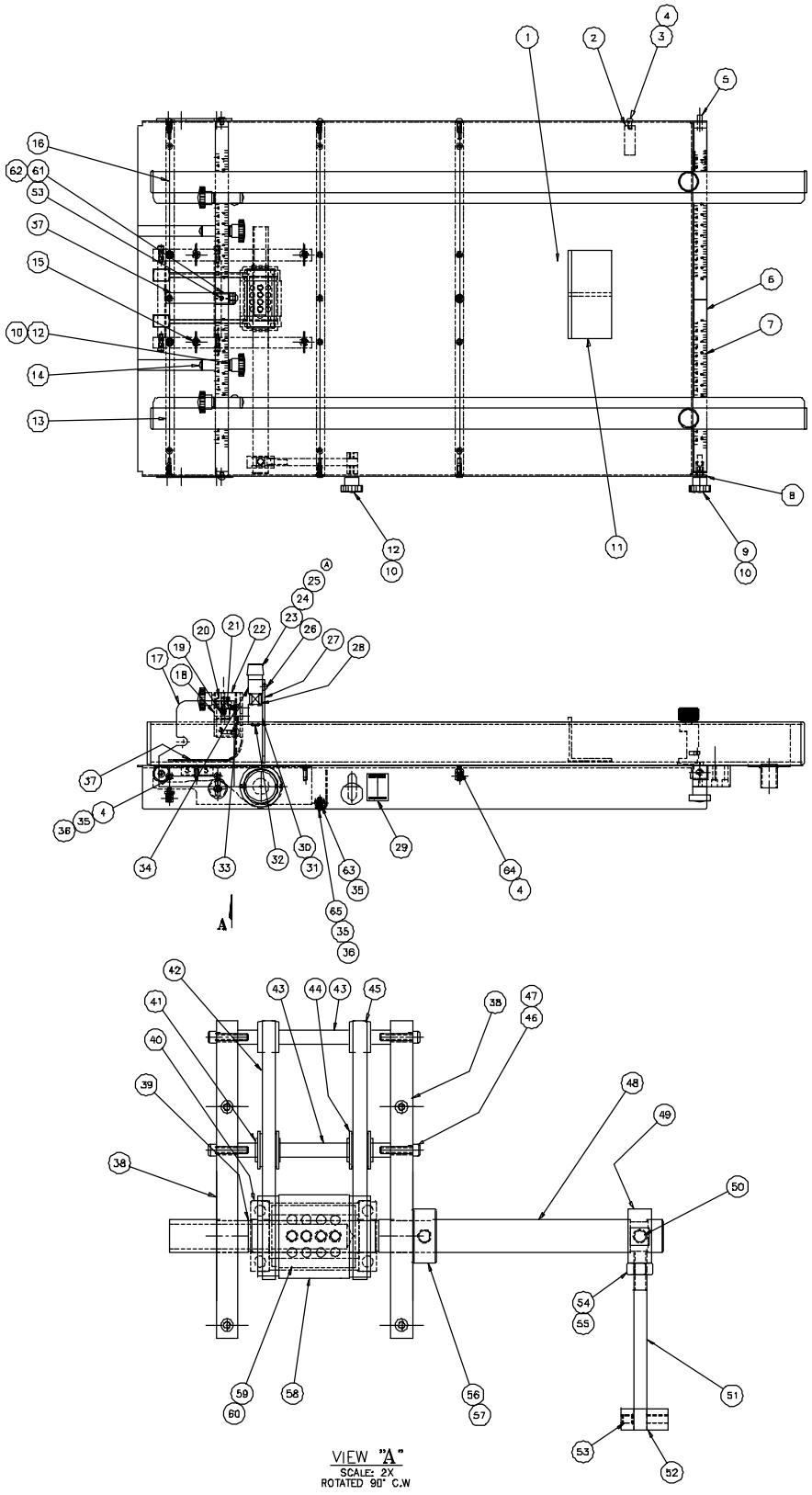
FOLDPLATE ASSEMBLY #2

35080 REV. 'D'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35063	NOSE PLATE	1
2	35184–1	SPACER	2
3	35062	NOSE PLATE – TOP	1
4	35068	HINGE	2
5	H–6940–102412	SCREW – #10–24 X 3/4 FLT. PT. SOC. SET	2
6	35070	DEFLECTOR	1
7	35069–1	SCALE – FOLDPLATE	2
8	35064	STOP	1
9	35073–1	SHAFT	2
10	H–6423–#8	NUT – #8–32 HEX, FINISHED	14
11	H–6910–83204	SCREW – 8–32 x 1/2 BUTTON HD SOC CAP	2
12	35071	PIVOT–DEFLECTOR	2
13	H–21S–187–0500	PIN – 3/16 X 1/2 SEL LOC	2
14	35067–1	FOLDPLATE SUPPORT	2
15	H–7324–#8	WASHER – #8 INTER TOOTH LOCK	14
16	H–6910–83203	SCREW – #8–32 x 3/8 BUT HD SOC CAP	44
17	A–10644–2	COLLAR – 1/2" I.D. STEEL	2
18	35187	ADJUSTMENT KNOB	2
19	11288–10	WASHER/SPACER	4
20	35065–1	CHANNEL	14
21	35066	FOLD PLATE ANGLE	1
22	35185	SPACER	7
23	35072	GUIDE BLOCK–PAPER STOP	2
24	7957–5	ADJUSTMENT KNOB	2
25	H–6423–#10	NUT – #10–24 HEX	4
26	H–6910–102403	SCREW – #10–24 X 3/8 BUTTON HD	2
27	35075	SCALE – FOLDPLATE	2
28	35081	ECCENTRIC – FOLD PLATE	2
29	H–7324#10	WASHER – INT. TOOTHLOCK	2
30	11116	LABEL – FOLDPLATE MICRO ADJUSTMENT	2

FEEDER ASSEMBLY

35100-2 REV. 'F'

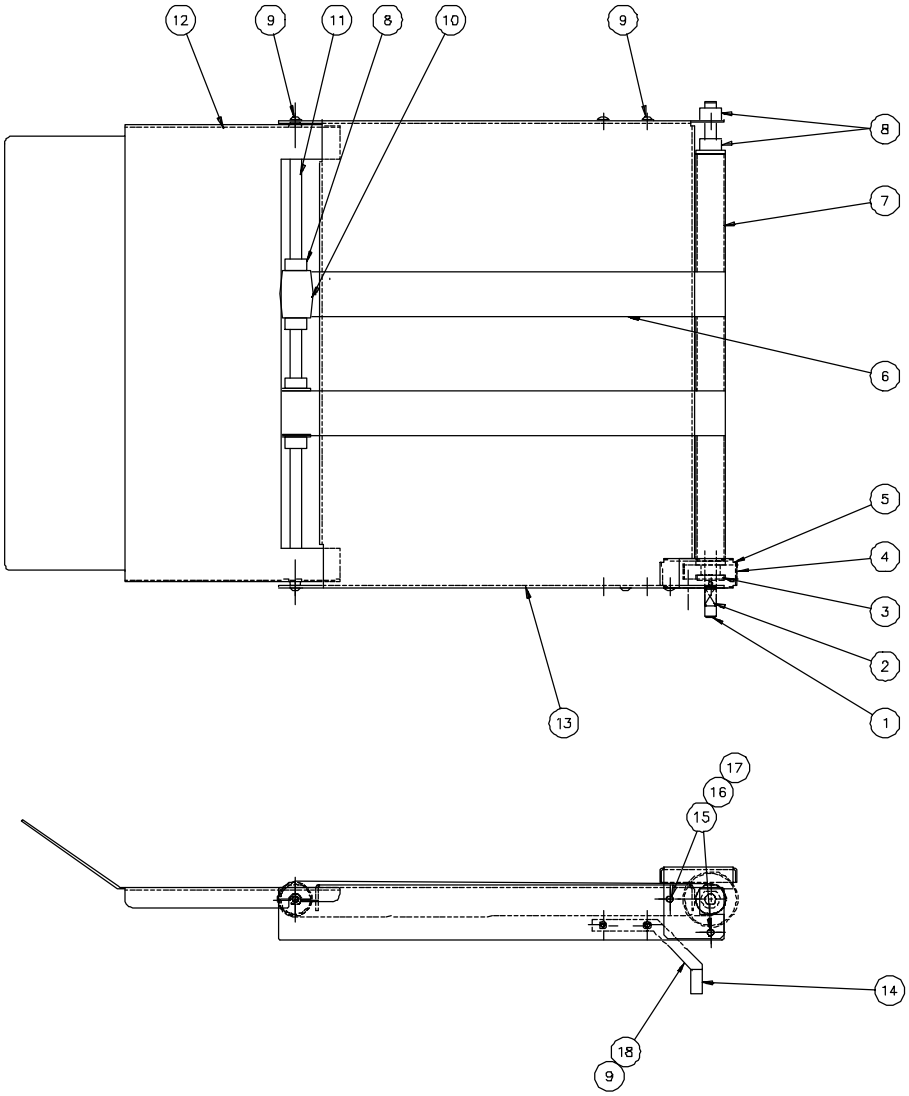


FEEDER ASSEMBLY
35100-2 REV. 'F'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35101-1	TABLE ASSEMBLY	1
2	E-2186-6	CLAMP - WIRE HARNESS	1
3	H-6916-83206	SCREW - #8-32 X 3/4 FLT HD	1
4	H-6423-#8	NUT - #8-32 HEX	8
5	H-21S-187-0750	PIN - 3/16 x 3/4 ROLL	1
6	35104-1	TIE BAR - REAR	1
7	35127	SCALE - FEED TABLE	2
8	35234	SPRING	1
9	8278	KNOB	1
10	H-7321-#10	WASHER - #10 FLAT	4
11	AA-11251-1	BACK STOP ASSEMBLY	1
12	8278-1	KNOB - TINY KNURLED	3
13	35089-2	SIDE GUIDE ASSEMBLY - L.H.	1
14	H-6920-103203	SCREW - #10-32 x 3/8 BUT HD SOC	4
15	H-6916-83204	SCREW - #8-32 x 1/2 FLT HD	4
16	35090-2	SIDE GUIDE ASSEMBLY - R.H.	1
17	35103-1	PLATE - PIVOT	2
18	35084	CLAMP - SEPARATOR	2
19	H-6910-102404	SCREW - #10-24 x 1/2 BUT HD SOC	2
20	7957-5	KNOB	1
21	35106-1	BAR - SEPARATOR	1
22	35082	CLAMP - PAPER GUIDE	2
23	35250-1	KNOB	1
24	11288-18	WASHER - NYLON	1
25	35284	LABEL - SHEET SEPARATOR KNOB	1
26	H-6910-403	SCREW - 1/4-20 x 3/8 BUT HD CAP	2
27	35120	PLATE - SEPARATOR	1
28	35235	SPRING	1
29	35285	LABEL - VACUUM ADVANCE ADJUSTMENT	1
30	35121	BLOCK GUIDE	1
31	H-6938-83204	SCREW - #8-32 x 1/4 CUP PT SOC SET	4
32	35124	SHAFT - SEPARATOR	1

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
33	35123	SHAFT - ADJ.	2
34	35122	BLOCK - ADJUSTING	1
35	H-6910-83204	SCREW - #8-32 x 1/2 BUT HD CAP	11
36	H-7324-#8	WASHER - #8 INTER TOOTHLOCK	5
37	35083	PAPER GUIDE	3
38	35086-1	SIDE PLATE	2
39	H-6449-0750	RING - INTERNAL BOWED RETAINING	2
40	35236	BEARING	2
41	H-6451-0312	RING - GRIPRING	4
42	35113	BELT - SUCKER WHEEL	2
43	35087	TIE ROD	2
44	35114	ROLLER - GUIDE	2
45	35112	PULLEY	2
46	H-7321-#8	WASHER - #8 FLAT	2
47	H-6918-83206	SCREW - #8-32 x 3/4 SOC HD CAP	4
48	35109-2	SHAFT - VACUUM	1
49	35115	RING - LOCK	1
50	H-6938-505	SCREW - 5/16-18 x 5/16 SOC SET	1
51	35116	SHAFT ADJ. VACUUM	1
52	35117-1	HOLDER - SHAFT	1
53	H-6939-103204	SCREW - #10-32 x 1/4 SOC SET	2
54	H-6423-5	NUT - 5/16-18 HEX, FINISHED	1
55	H-7327-10	WASHER - 5/16 LOCK	1
56	A-10644-4	COLLAR - 3/4	1
57	H-6964-504	SCREW - 5/16-18 x 1/4 BRASS TIP SOC SET	1
58	35107-2	SUCKER WHEEL	1
59	35118-3	DISK	1
60	H-6918-83203	SCREW - #8-32 x 3/8 SOC HD CAP	1
61	35237	CLAMP - GUIDE STACKER	1
62	H-6920-103202	SCREW - #10-32 x 1/4 BUT HD	2
63	35105-1	TIE BAR - MEDALIST	3
64	H-6938-83210	SCREW - #8-32 x 5/8 SOC SET	3
65	35288	GUARD - FEEDER TABLE ASM.	1

STACKER ASSEMBLY
35128-1

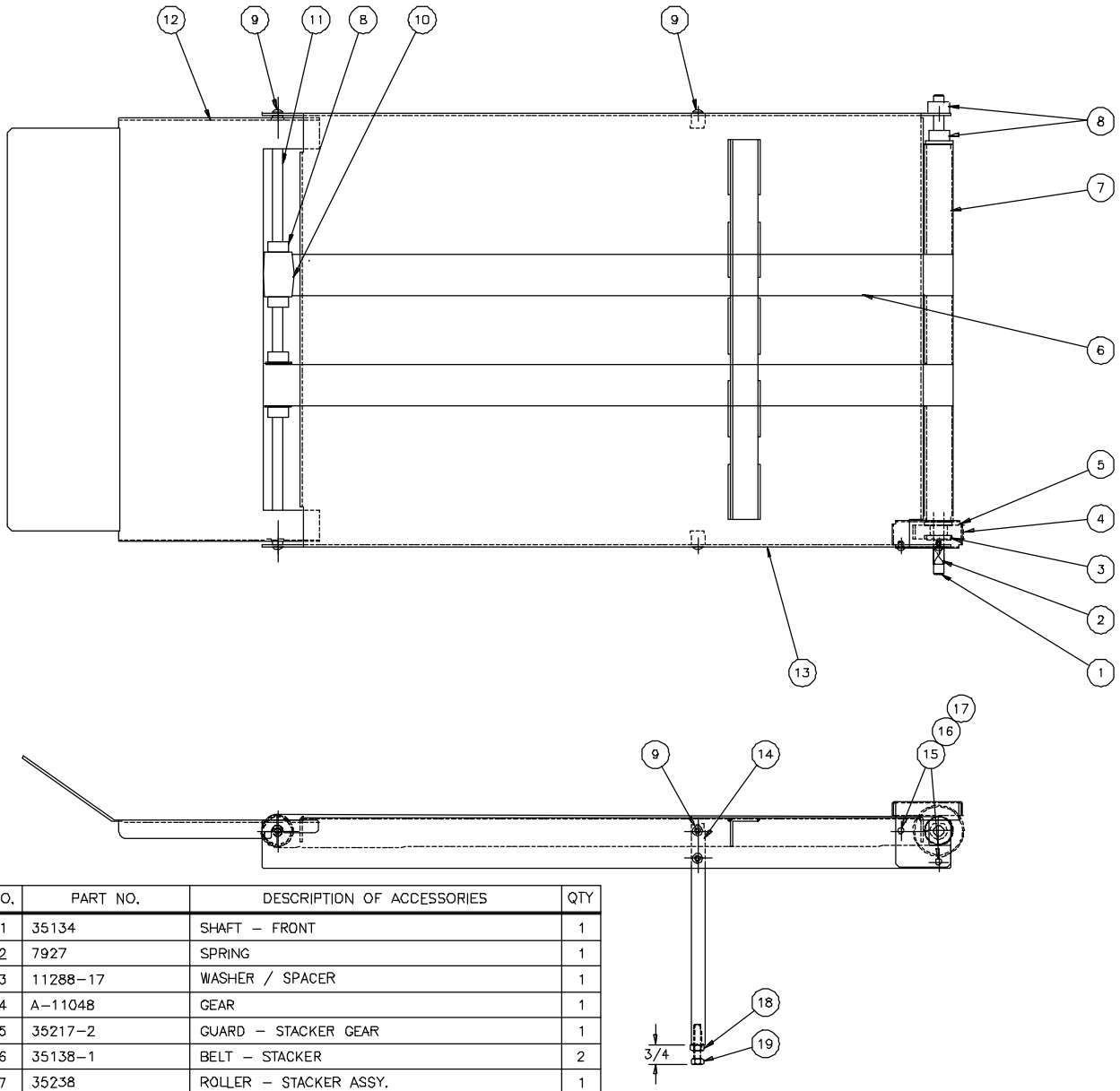


NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35134	SHAFT – FRONT	1
2	7927	SPRING	1
3	11288–17	WASHER / SPACER	1
4	A–11048	GEAR	1
5	35217–2	GUARD – STACKER GEAR	1
6	35138	BELT – STACKER	2
7	35238	ROLLER – STACKER ASSY.	1
8	A–10644–1	COLLAR 3/8 I.D. STEEL	6
9	H–6910–102404	#10–24 X 1/2 BUTT. HD. SOC. SCR.	6
10	35133	PULLEY – STACKER	2
11	35132–1	SHAFT – REAR, STACKER	1
12	35141–2	TRAY – STACKER	1
13	35280	TABLE – STACKER	1
14	E–1453–1	SHRINK TUBING	2
15	H–6910–83203	#8–32 X 3/8 BUTT. CAP. SCREW	4
16	H–7324–#8	#8 INT TOOTH LOCKWASHER	4
17	H–6423–#8	#8–32 HEX NUT	4
18	35140–1	SUPPORT – STACKER	2

LONG STACKER ASSEMBLY

(OPTIONAL)

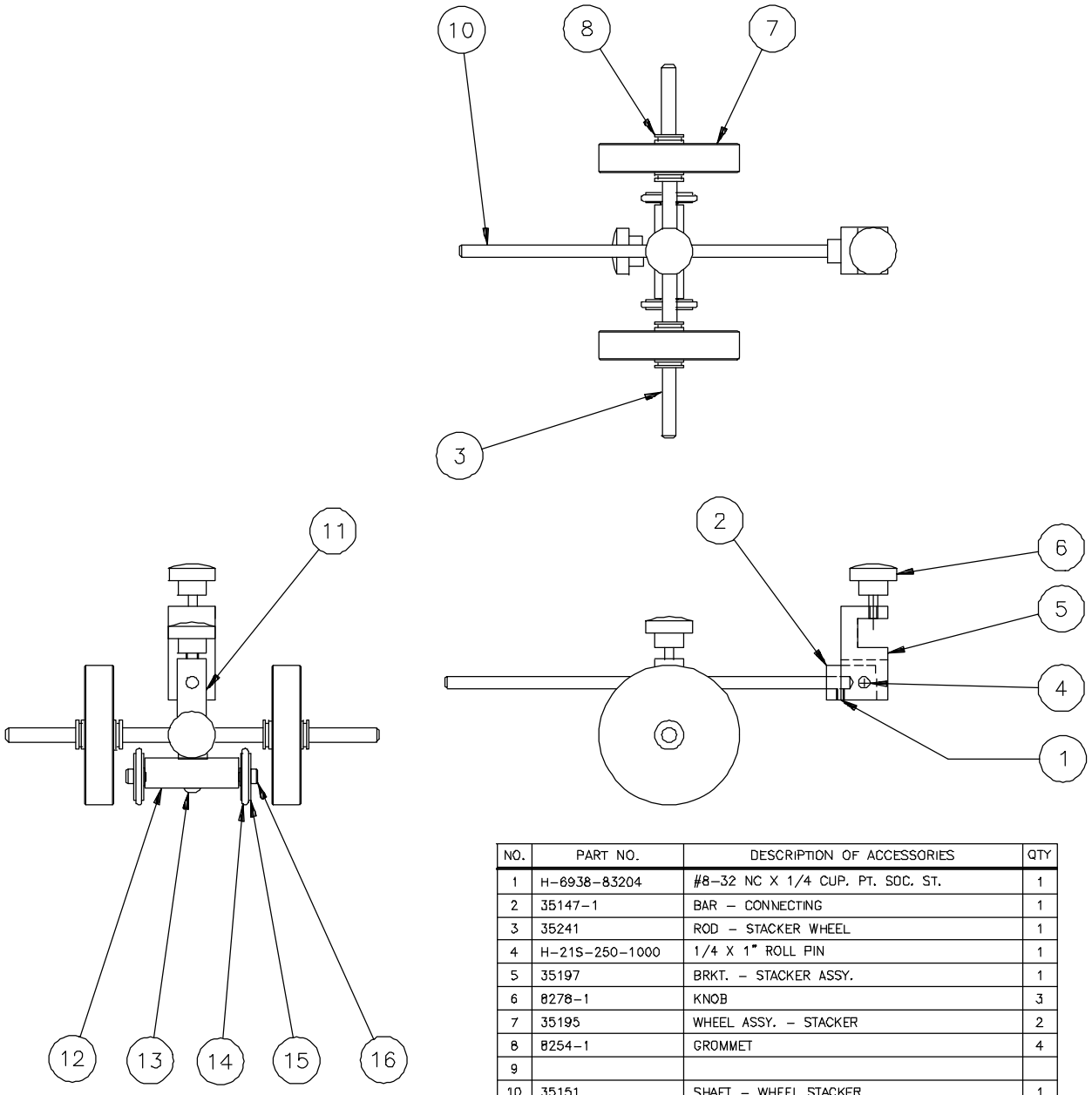
35290-1



NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35134	SHAFT – FRONT	1
2	7927	SPRING	1
3	11288-17	WASHER / SPACER	1
4	A-11048	GEAR	1
5	35217-2	GUARD – STACKER GEAR	1
6	35138-1	BELT – STACKER	2
7	35238	ROLLER – STACKER ASSY.	1
8	A-10644-1	COLLAR 3/8 I.D. STEEL	6
9	H-6910-102404	SCREW – #10-24 X 1/2 BUTT. HD SOC	6
10	35133	PULLEY – STACKER	2
11	35132-1	SHAFT – REAR, STACKER	1
12	35141-2	TRAY – STACKER	1
13	36070-1	TABLE – LONG STACKER	1
14	36067	SUPPORT – STACKER	2
15	H-6910-83203	SCREW – #8-32 X 3/8 BUTT. CAP.	4
16	H-7324-#8	#8 INT TOOTH LOCKWASHER	4
17	H-6423-#8	NUT – #8-32 HEX	4
18	H-6423-4	NUT – 1/4-20 HEX	2
19	H-6881-420	SCREW – 1/4-20 x 1-1/4 HEX	2
20	35291	SHELF – STACKER SUPPORT (NOT SHOWN)	1
21	H-6910-406	SCREW – 1/4-20 x 3/4 BT CAP (NOT SHOWN)	2

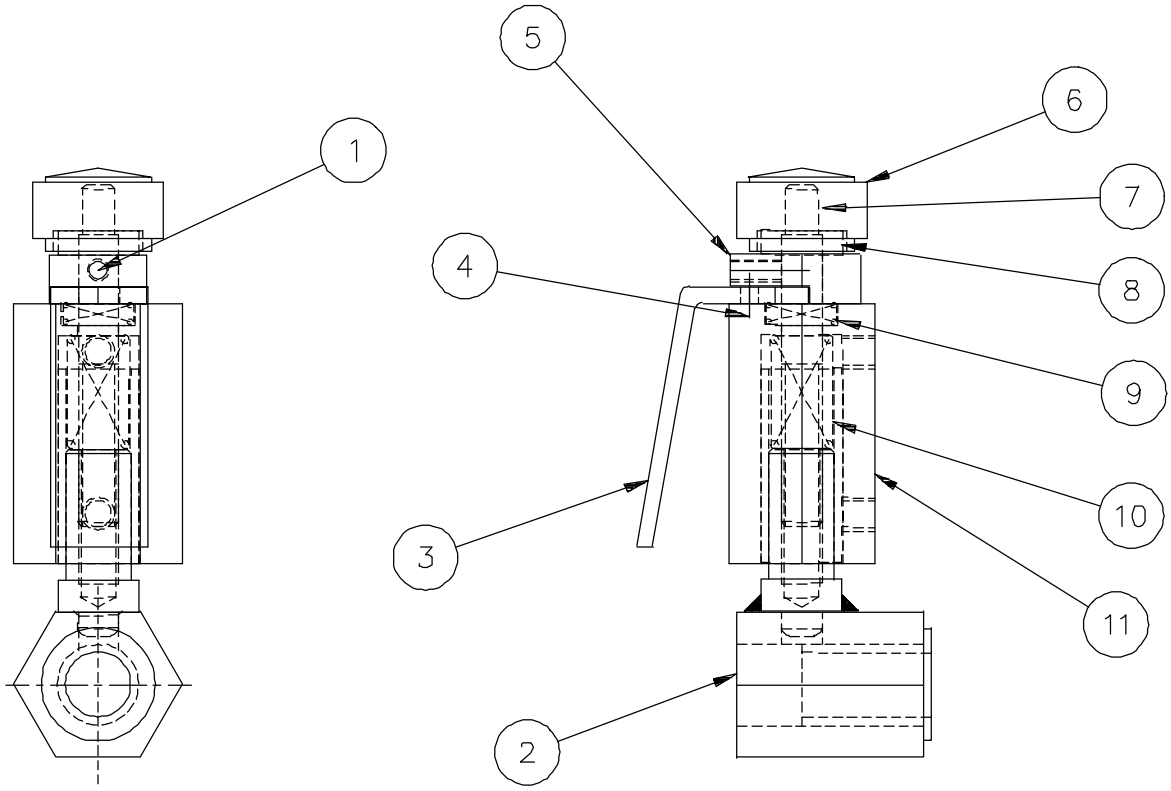
STACKER WHEEL ASSEMBLY

35198 REV. 'E'



NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	H-6938-83204	#8-32 NC X 1/4 CUP. PT. SOC. ST.	1
2	35147-1	BAR - CONNECTING	1
3	35241	ROD - STACKER WHEEL	1
4	H-21S-250-1000	1/4 X 1" ROLL PIN	1
5	35197	BRKT. - STACKER ASSY.	1
6	8278-1	KNOB	3
7	35195	WHEEL ASSY. - STACKER	2
8	8254-1	GROMMET	4
9			
10	35151	SHAFT - WHEEL STACKER	1
11	35146-2	BAR - STACKER WHEEL	1
12	35058	AXLE	1
13	H-6920-103206	SCREW - #10-32 X 3/4 BUT HD SOC	1
14	S-1810-42	'O' RING	2
15	35570	ROLLER	2
16	35575	SHOULDER SCREW	2

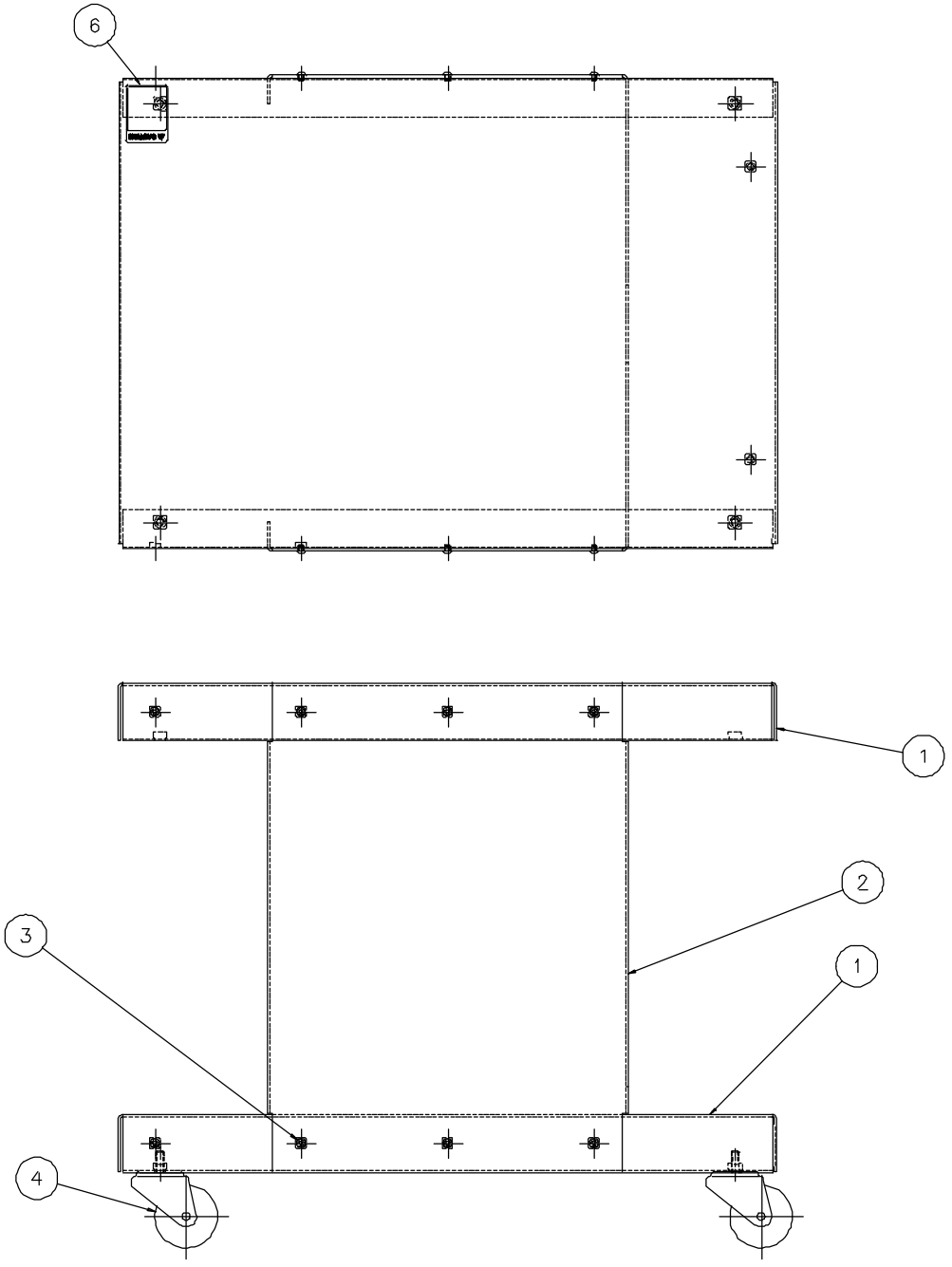
CALIPER ASSEMBLY
35041



NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	H-6952-83204	#8-32 x 1/4 NYLON TIP SET SCREW	1
2	35215	BLOCK ASSY - CALIPER	1
	A-10257-5	BUSHING	1 REF
3	35045	LEVER	1
4	H-21S-125-0500	1/8 x 1/2 ROLL PIN	1
5	35047-1	BLOCK-CALIPER	1
6	35250	KNOB	1
7	35044	SHAFT-ADJUSTMENT	1
8	11288-9	WASHER-NYLON	1
9	35049-1	SPRING	1
10	35048	SPRING	1
11	35203	HOUSING ASSY - CALIPER	1
	A-10172-24	BUSHING	1 REF

MEDALIST STAND ASSEMBLY

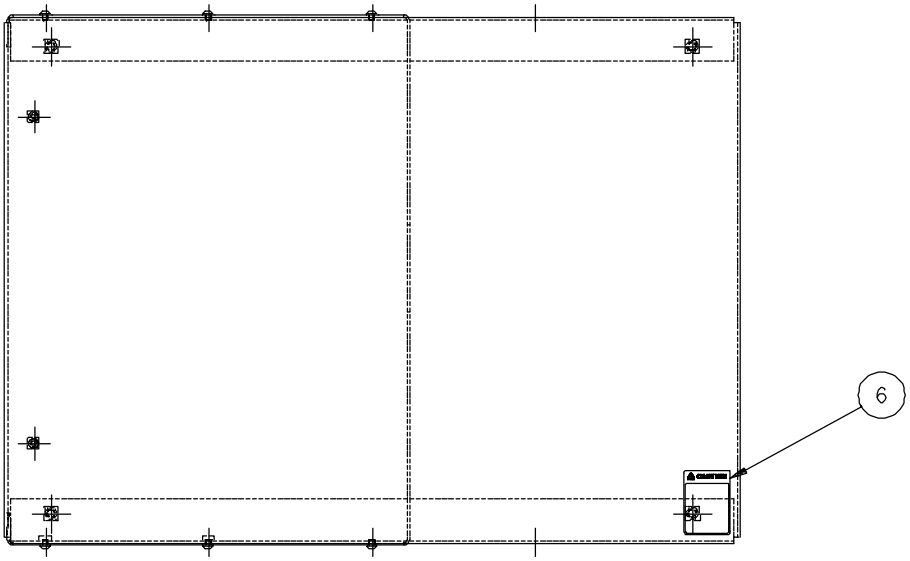
35470 REV. 'C'

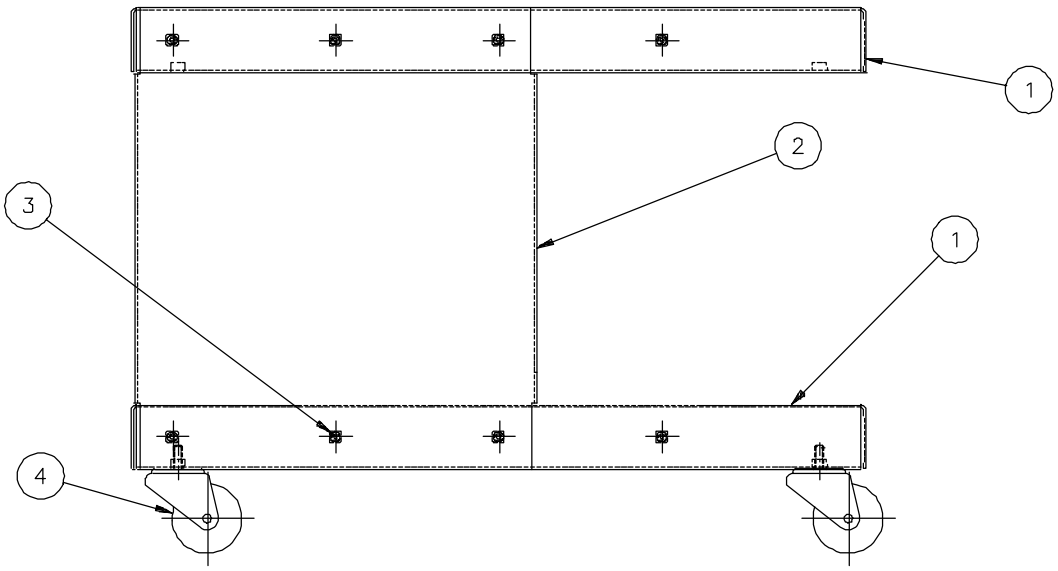


NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35471	BASE – STAND	2
2	35472	UPRIGHT – STAND	1
3	H–6910–406	1/4–20 x 3/4 BUTTON HD. SCREW	12
4	11363	CASTER – LOCKING	4
5	W–175	CASTER – WRENCH	1
6	S–1781–17	DECAL – CAUTION	1

RIGHT ANGLE STAND ASSEMBLY

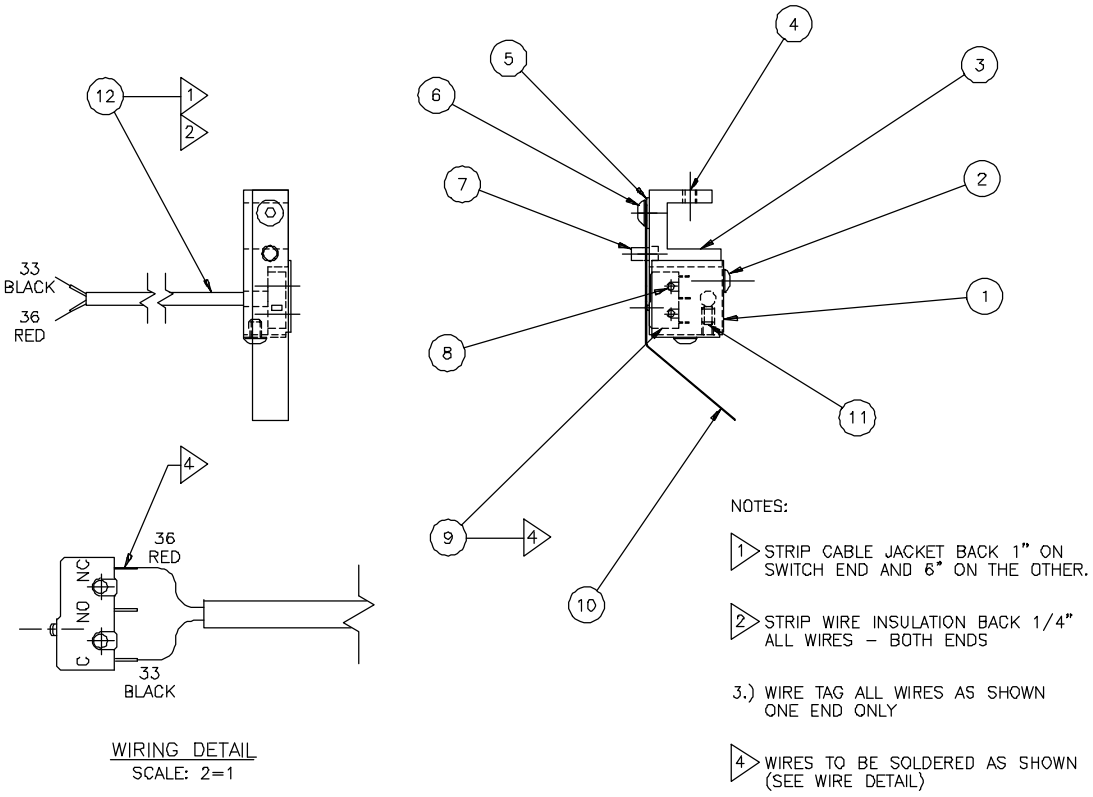
35473 REV. 'C'





NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35471	BASE – STAND	2
2	35474	UPRIGHT – R.A. STAND	1
3	H–6910–406	1/4–20 x 3/4 BUTTON HD. SCREW	12
4	11363	CASTER – LOCKING	4
5	W–175	CASTER – WRENCH	1
6	S–1781–17	DECAL – CAUTION	1

JAM DETECTOR ASSEMBLY
EE-2607 REV. 'C'



NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	36090	COVER – JAM DETECTOR	1
2	H-6910-83202	#8-32 X 1/4 BUTT. HD CAP SCREW	2
3	36089	BLOCK – JAM DETECTOR	1
4	H-6939-103204	#10-32 X 1/4 SOC SET SCREW	1
5	S-1864-3	CAPTIVE RETAINING DEVICE	1
6	H-6920-103202	#10-32 X 1/4 BUTT. HD CAP SCREW	1
7	H-21S-187-0375	3/16 X 3/8 SPRING PIN	1
8	H-21M-20-12	2 X 12 METRIC SPRING PIN	2
9	E-866-7	MICRO SWITCH	1
10	35149-1	GUIDE – STACKER	1
11	H-6938-83204	#8-32 X 1/4 SOC SET SCREW	1
12	E-2611	CABLE – #20 GA. 2 COND. 45" LONG	1

ELECTRICAL SEQUENCE OF OPERATION

ELECTRICAL SEQUENCE OF OPERATION

A. Close the POWER switch.

B. Press the compressor ON switch.

C. Press the START button.

D. Adjust the SPEED CONTROL.

ELECTRICAL SCHEMATIC REFERENCES
(Drawings E-2657 & E-2658)

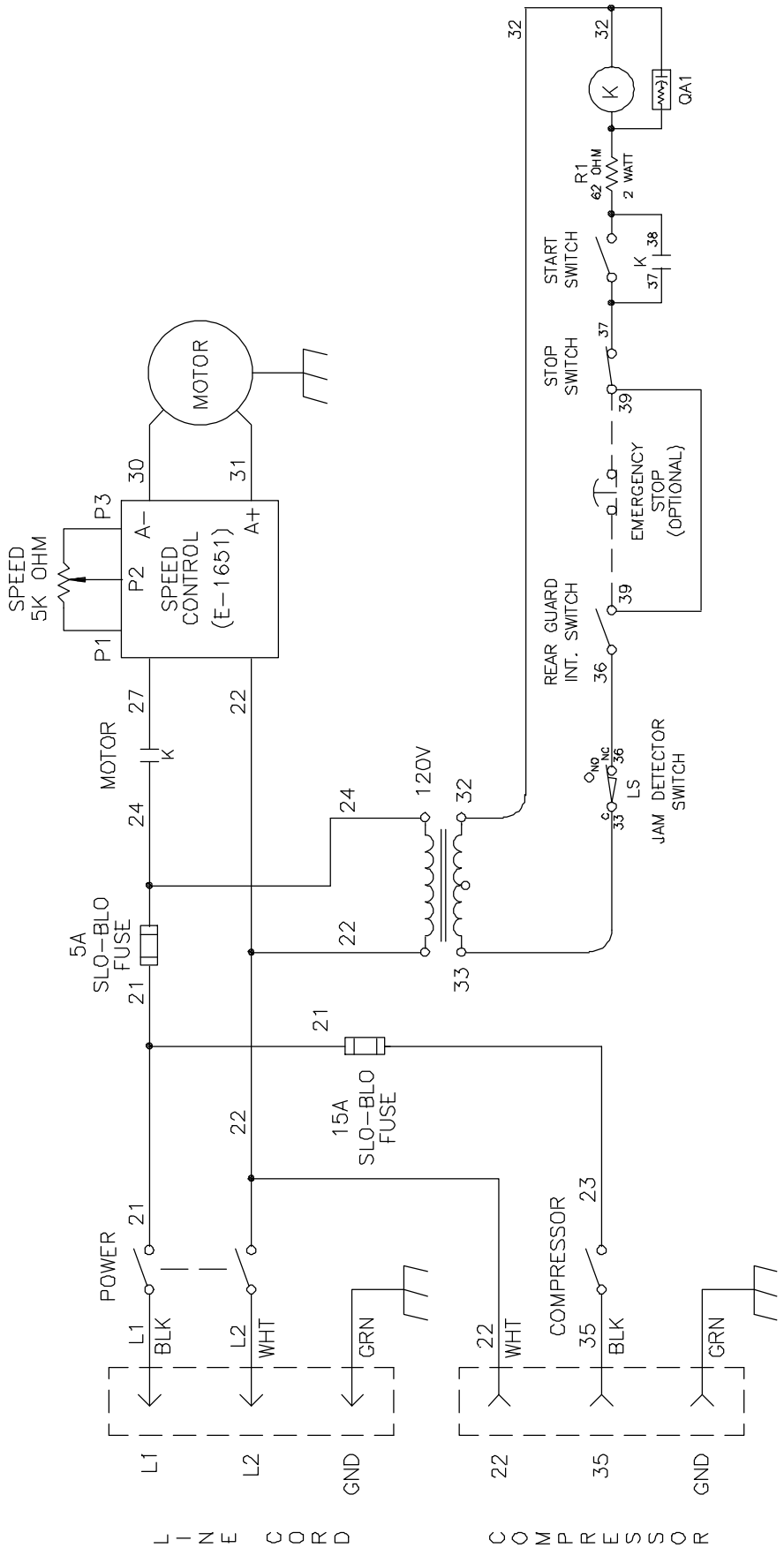
While the POWER switch is closed, power is brought to the transformer, provided the 8A fuse is conductive. The transformer provides power to the start/stop circuit, and to the sheet counter. Opening the main disconnect switch at any time cuts power to the transformer.

When the compressor ON switch is closed, power is brought to the compressor.

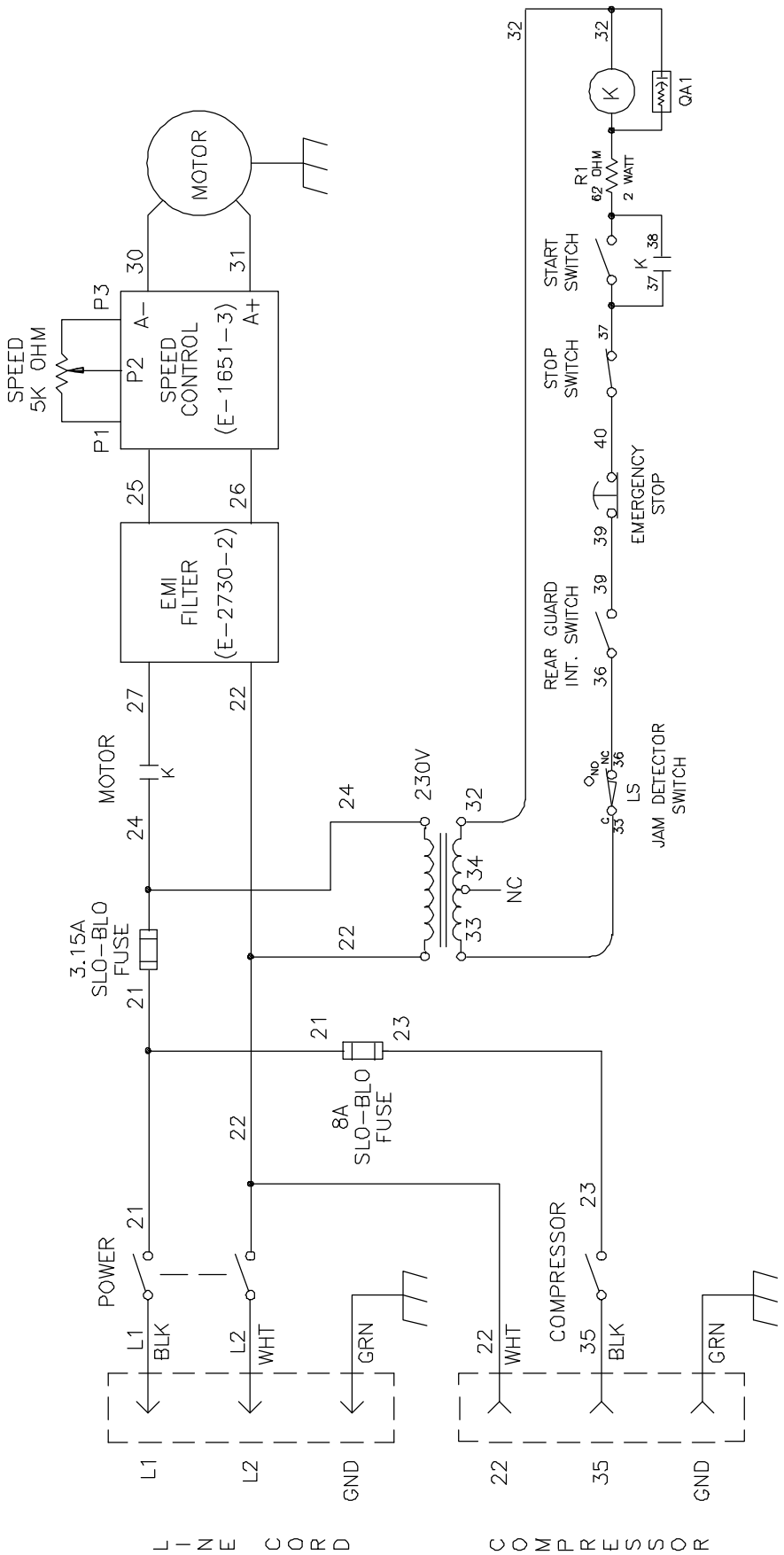
When the START switch is closed, the folder motor relay coil K will energize, provided the jam detector switch, the rear guard switch, the emergency stop switch (opt.), and the stop switch are closed. Power is then supplied to the folder motor, provided the 3.15A fuse is conductive. The relay coil K remains energized until any of the above listed switches are opened.

The speed of the folder motor can be adjusted by turning the SPEED CONTROL knob.

820 BASIC MACHINE SCHEMATIC - (120 VOLT)
E-2781

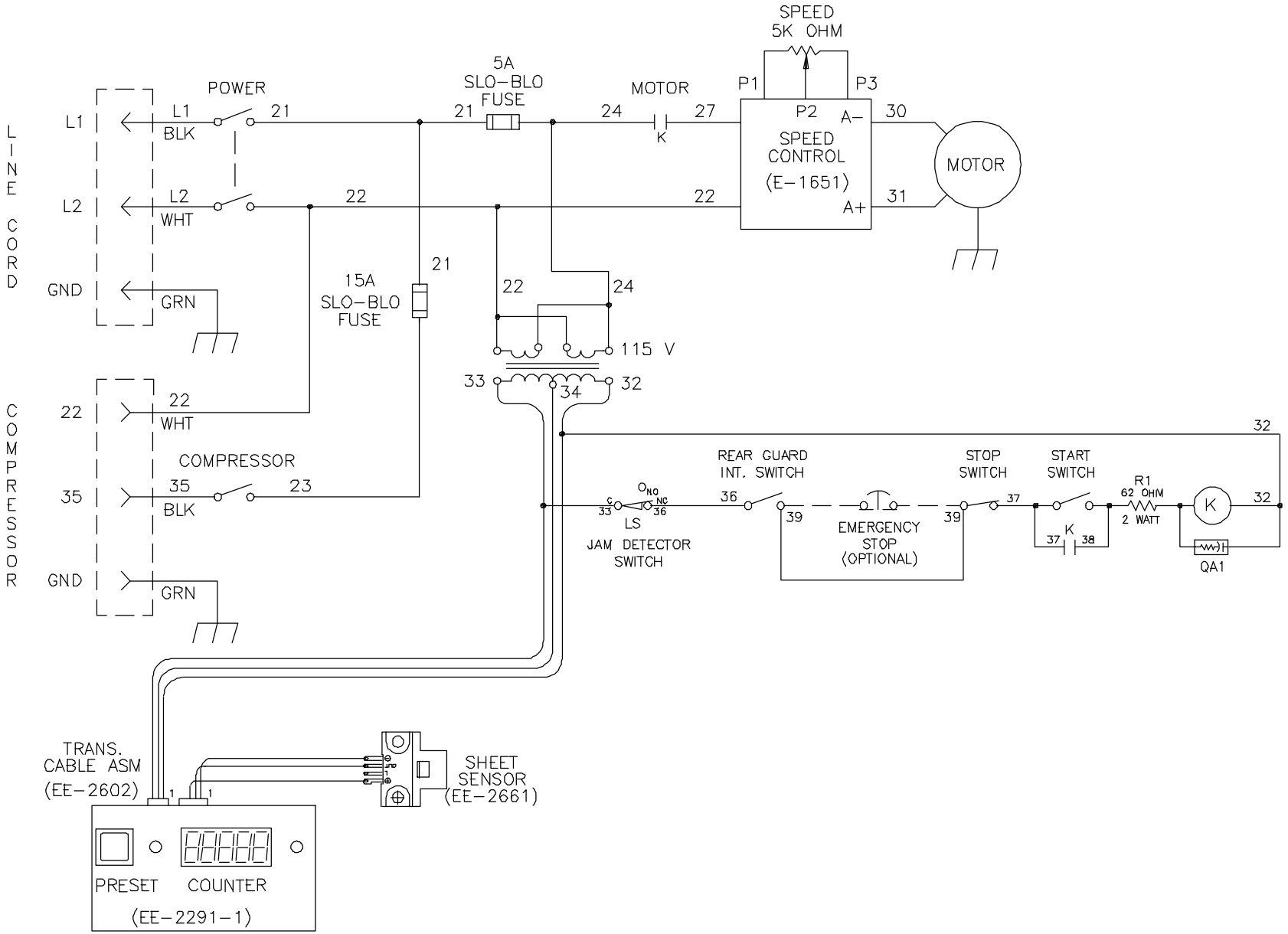


820 BASIC MACHINE SCHEMATIC - (230 VOLT)
E-2782



870 BASIC MACHINE SCHEMATIC - (120 VOLT)

E-2657 REV. 'A'



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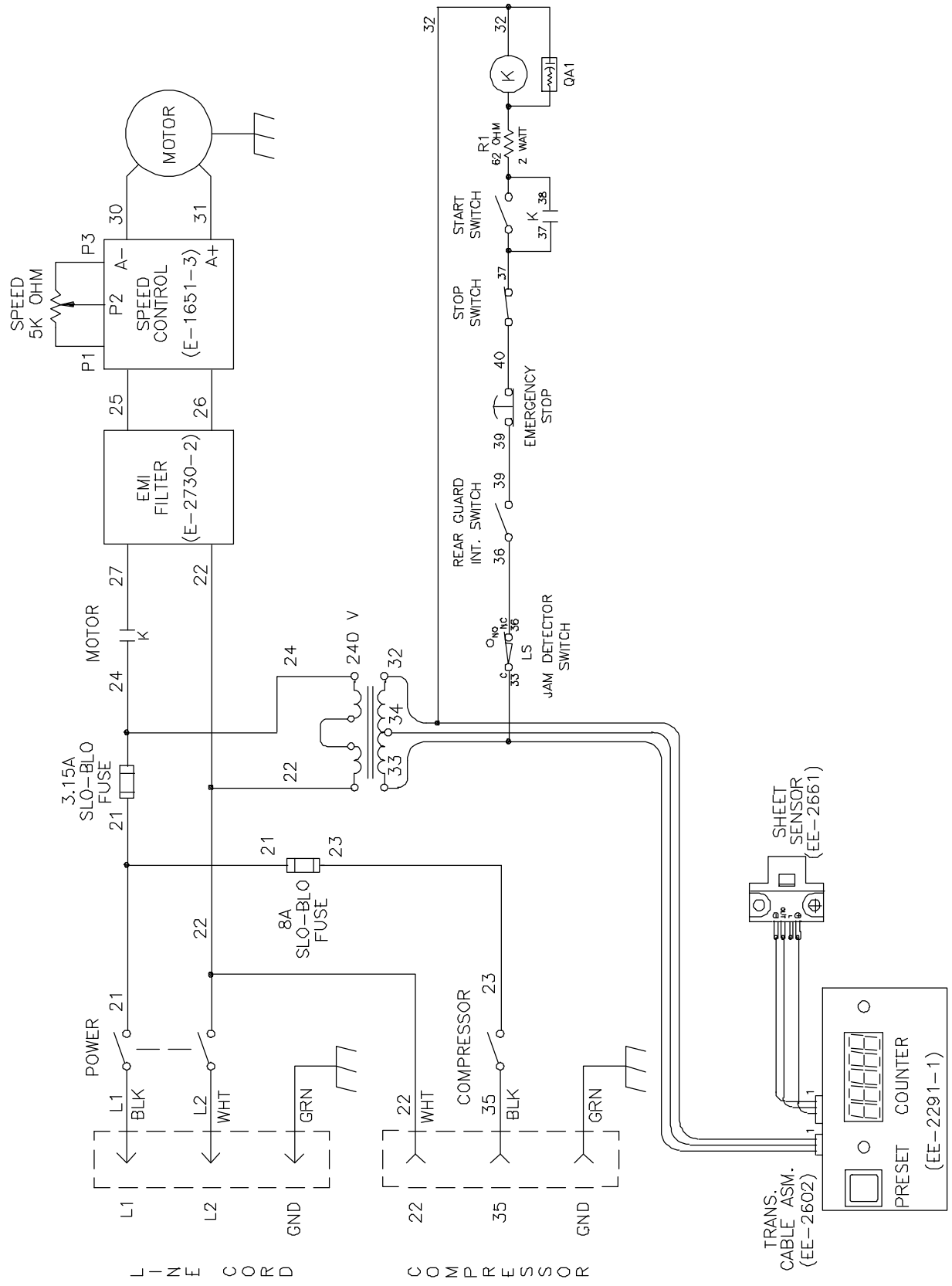
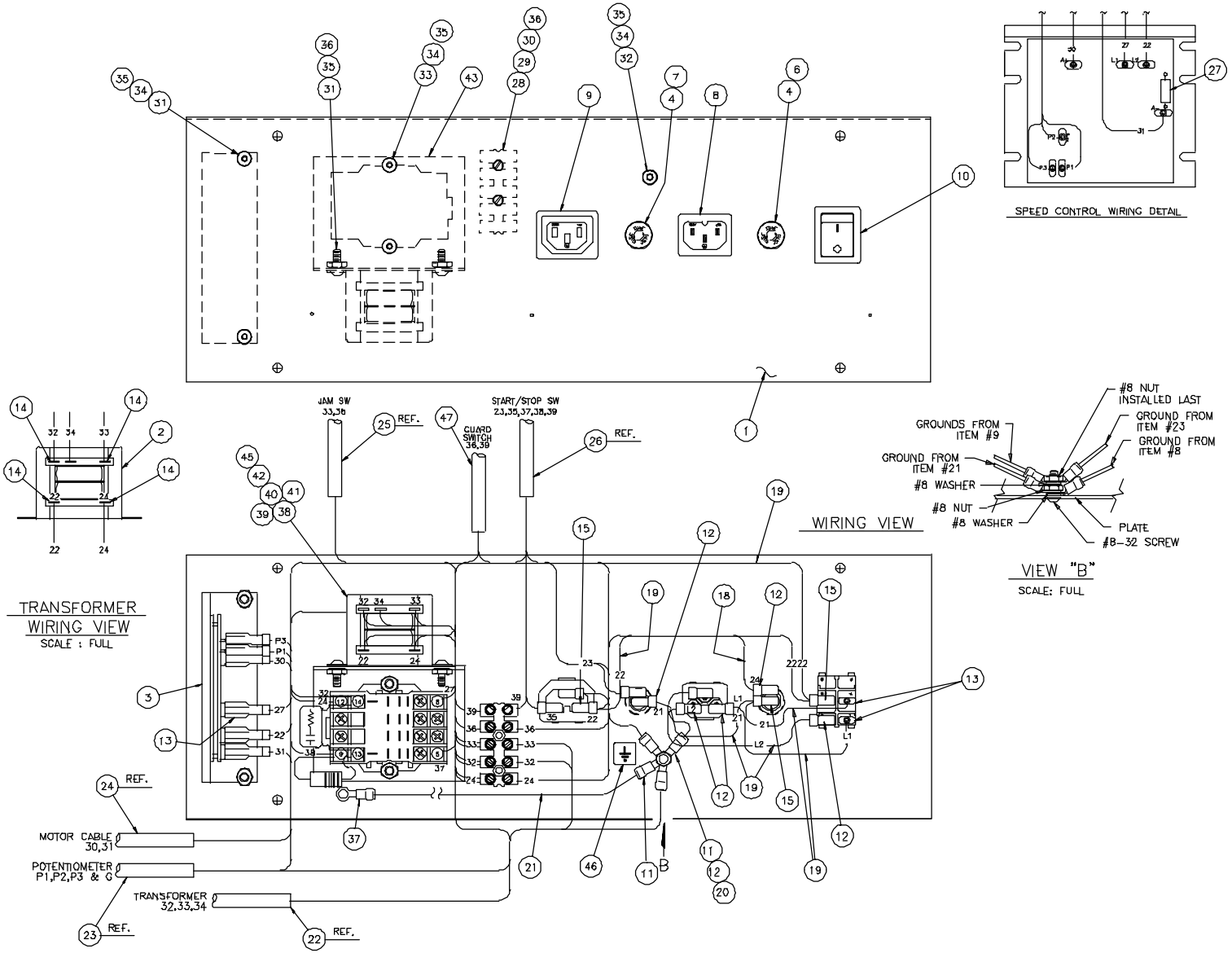
870 BASIC MACHINE SCHEMATIC - (230 VOLT)

E-2658 REV. 'A'



820/870 BACK COVER PLATE ASSEMBLY - (120 VOLT)

EE-2655 REV. 'C'



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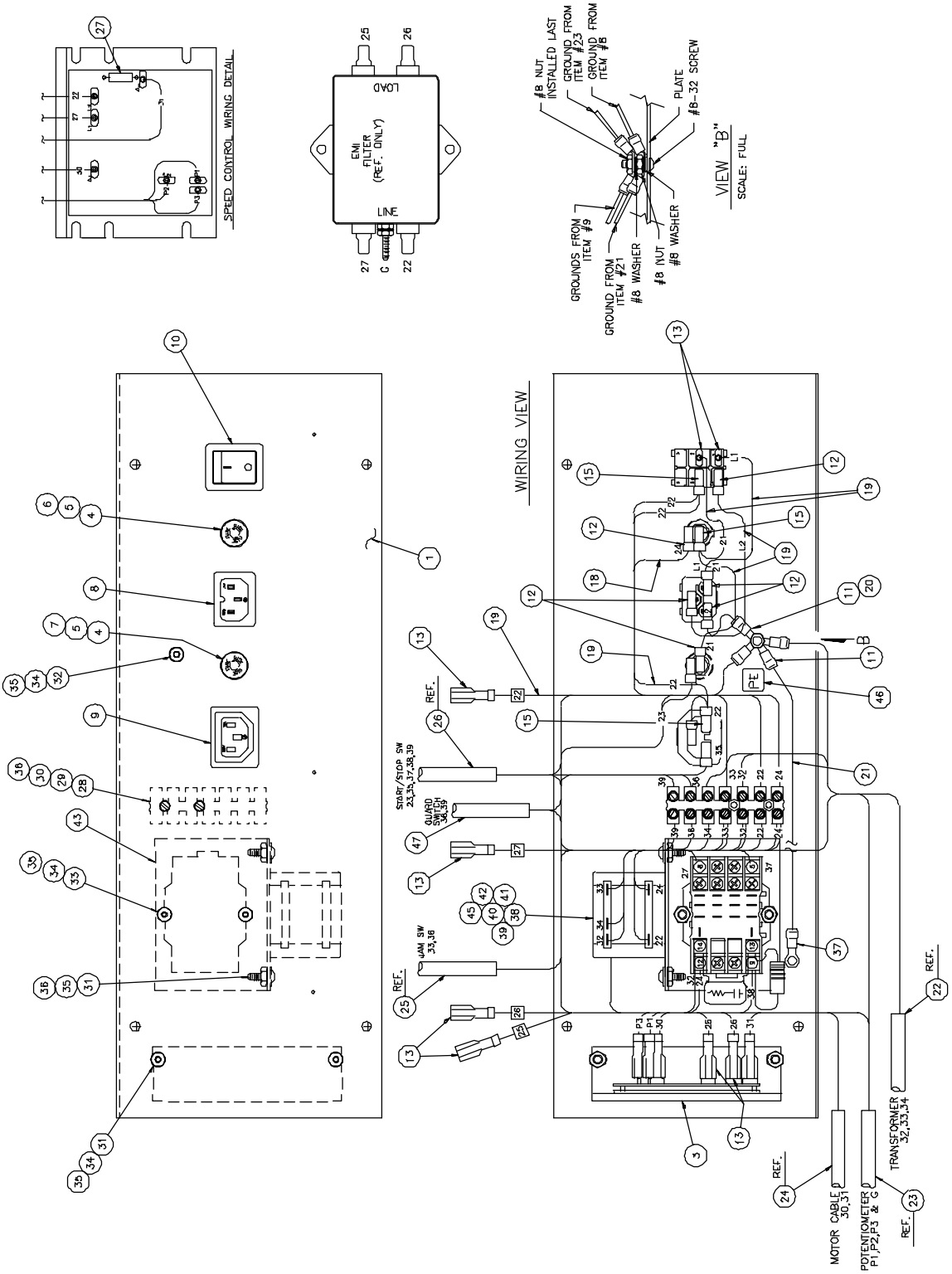
820/870 BACK COVER PLATE ASSEMBLY - (120 VOLT)
EE-2655 REV. 'C'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35462	PLATE – BACK COVER	1
2	E–1623–5	TRANSFORMER – 120V PRIM./16V SEC., 12VA	1
3	E–1651	SPEED CONTROL	1
4	E–530–13	FUSE HOLDER – BODY	2
5			
6	E–889–6	FUSE – 5A SLO–BLO	1
7	E–889–31	FUSE – 15A SLO–BLO	1
8	E–2331	PLUG RECEPTACLE	1
9	E–2332	SOCKET RECEPTACLE	1
10	E–1140–11	SWITCH, ROCKER	1
11	E–1214–9	CONNECTOR, #8 INSULATED RING	3
12	E–1214–23	CONNECTOR, 1/4" FULLY INS. Q.D. 90° (16–14)	7
13	E–1214–49	CONNECTOR, 1/4" FULLY INS. Q.D. (16–14)	4
14	E–1214–51	CONNECTOR, .187" FULLY INS. Q.D. (22–18)	4
15	E–1214–52	CONNECTOR, 1/4" FULLY INS. Q.D. 90° (12–10)	3
16			
17			
18	E–709–R	WIRE, #18 GA. RED MTW	AS NEEDED
19	E–849–R	WIRE, #16 GA. RED MTW	AS NEEDED
20	E–849–G	WIRE, #16 GA. GREEN MTW 6" LONG	2
21	E–849–G	WIRE, #16 GA. MTW – GREEN – 16" LONG	1
22	EE–2602	CABLE ASM. – TRANSFORMER	REF
23	EE–2340	CABLE ASM. – POTENTIOMETER	REF
24	EE–2350	CABLE ASM. – MOTOR	REF

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
25	EE–2607	SWITCH ASSEMBLY – JAM	REF
26	EE–2660	CABLE ASSEMBLY – COMPRES/START/STOP SW	REF
27	E–2126–3	RESISTOR, HORSE POWER	1
28	H–6923–44012	SCREW, #4–40 X 3/4" RD HD	2
29	H–7324–#4	WASHER, #4 INT. TOOTHLOCK	2
30	H–6423–#4	NUT, #4–40 HEX	2
31	H–6910–83204	SCREW, #8–32 X 1/2" BUT HD SOC CAP	4
32	H–6910–83205	SCREW – #8–32 X 5/8" BUT HD SOC CAP	1
33	H–6910–83210	SCREW, #8–32 X 1–1/4" BUT HD SOC CAP	2
34	H–7324–#8	WASHER, #8 INT. TOOTHLOCK	7
35	H–6423–#8	NUT, #8–32 HEX	7
36	E–2626–5	TERMINAL STRIP – PANEL MOUNT, 5 POLE	1
37	E–1214–8	CONNECTOR – #10 INSULATED RING	1
38	E–2113–6	SOCKET – 14 PIN	1
39	E–2112–3	RELAY – 14 PIN (NOT SHOWN)	1
40	E–2114–2	HOLD DOWN SPRING (NOT SHOWN)	1
41	E–1191–6	RESISTOR – 62 OHM, 2W	1
42	E–1736	QUENCHARC	1
43	36148	BRACKET – TRANSFORMER	1
44	S–1694	TYRAP (NOT SHOWN)	5
45	E–1453–3	SHRINK TUBING – 1/16" I.D., 1" LONG	4
46	S–1781–42	LABEL – GROUND	1
47	EE–2760	CABLE ASM. – REAR GUARD INTERLOCK SWITCH	1

820/870 BACK COVER PLATE ASSEMBLY - (230 VOLT)

EE-2656 REV. 'B'



820/870 BACK COVER PLATE ASSEMBLY - (230 VOLT)

EE-2656 REV. 'B'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35462	PLATE – BACK COVER	1
2	E–2742–3	TRANSFORMER – 230V, 12VA EURO–STYLE	1
3	E–1651	SPEED CONTROL	1
4	E–530–13	FUSE HOLDER – BODY	2
5	E–530–15	FUSE CARRIER – (CAP)	2
6	E–2330–5	FUSE – 3.15A SLO–BLO	1
7	E–2330–10	FUSE – 10A SLO–BLO	1
8	E–2331	PLUG RECEPTACLE	1
9	E–2332	SOCKET RECEPTACLE	1
10	E–1140–11	SWITCH, ROCKER	1
11	E–1214–9	CONNECTOR, #8 INSULATED RING	3
12	E–1214–23	CONNECTOR, 1/4" FULLY INS. Q.D. 90° (16–14)	7
13	E–1214–49	CONNECTOR, 1/4" FULLY INS. Q.D. (16–14)	8
14			
15	E–1214–52	CONNECTOR, 1/4" FULLY INS. Q.D. 90° (12–10)	3
16	E–1214–53	CONNECTOR, .187" FULLY INS. Q.D. (16–14)	2
17			
18	E–709–R	WIRE, #18 GA. RED MTW	AS NEEDED
19	E–849–R	WIRE, #16 GA. RED MTW	AS NEEDED
20	E–849–G	WIRE, #16 GA. GREEN MTW 5" LONG	2
21	E–849–G	WIRE, #16 GA. MTW – GREEN – 16" LONG	1
22	EE–2602	CABLE ASM. – TRANSFORMER	REF
23	EE–2340	CABLE ASM. – POTENTIOMETER	REF
24	EE–2350	CABLE ASM. – MOTOR	REF

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
25	EE–2607	SWITCH ASSEMBLY – JAM	REF
26	EE–2660	CABLE ASSEMBLY – COMPRES/START/STOP SW	REF
27	E–2126–3	RESISTOR, HORSE POWER	1
28	H–6923–44012	SCREW, #4–40 X 3/4" RD HD	2
29	H–7324–#4	WASHER, #4 INT. TOOTHLOCK	2
30	H–6423–#4	NUT, #4–40 HEX	2
31	H–6910–83204	SCREW, #8–32 X 1/2" BUT HD SOC CAP	4
32	H–6910–83205	SCREW – #8–32 X 5/8" BUT HD SOC CAP	1
33	H–6910–83210	SCREW, #8–32 X 1–1/4" BUT HD SOC CAP	2
34	H–7324–#8	WASHER, #8 INT. TOOTHLOCK	7
35	H–6423–#8	NUT, #8–32 HEX	7
36	E–2626–7	TERMINAL STRIP – PANEL MOUNT, 7 POLE	1
37	E–1214–8	CONNECTOR – #10 INSULATED RING	1
38	E–2113–6	SOCKET – 14 PIN	1
39	E–2112–3	RELAY – 14 PIN (NOT SHOWN)	1
40	E–2114–2	HOLD DOWN SPRING (NOT SHOWN)	1
41	E–1191–6	RESISTOR – 62 OHM, 2W	1
42	E–1736	QUENCHARC	1
43	36148	BRACKET – TRANSFORMER	1
44	S–1694	TYRAP (NOT SHOWN)	5
45	E–1453–3	SHRINK TUBING – 1/16" I.D., 1" LONG	4
46	S–1781–45	LABEL – "PE" PROTECTED EARTH	1
47	EE–2760	CABLE ASM. – REAR GUARD INTERLOCK SWITCH	1

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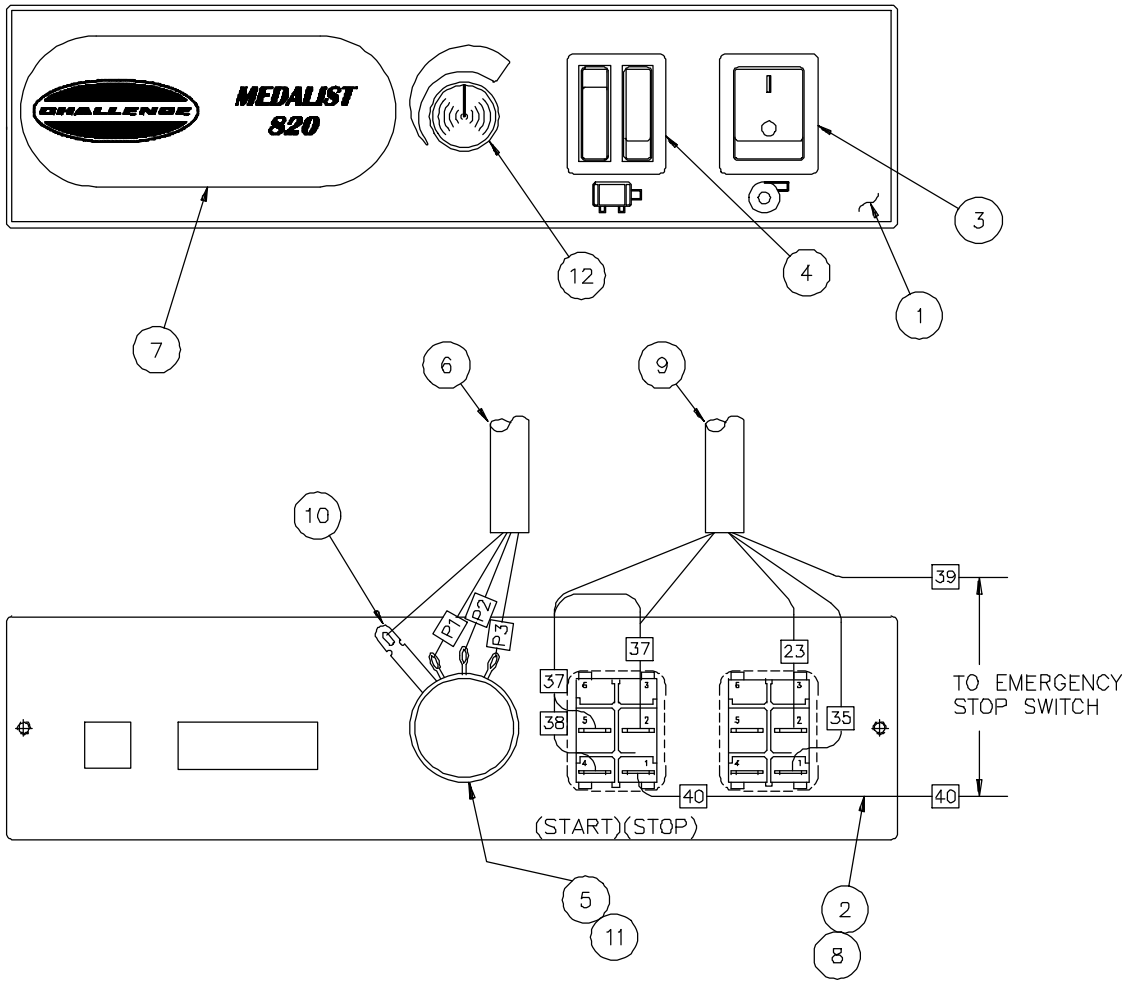
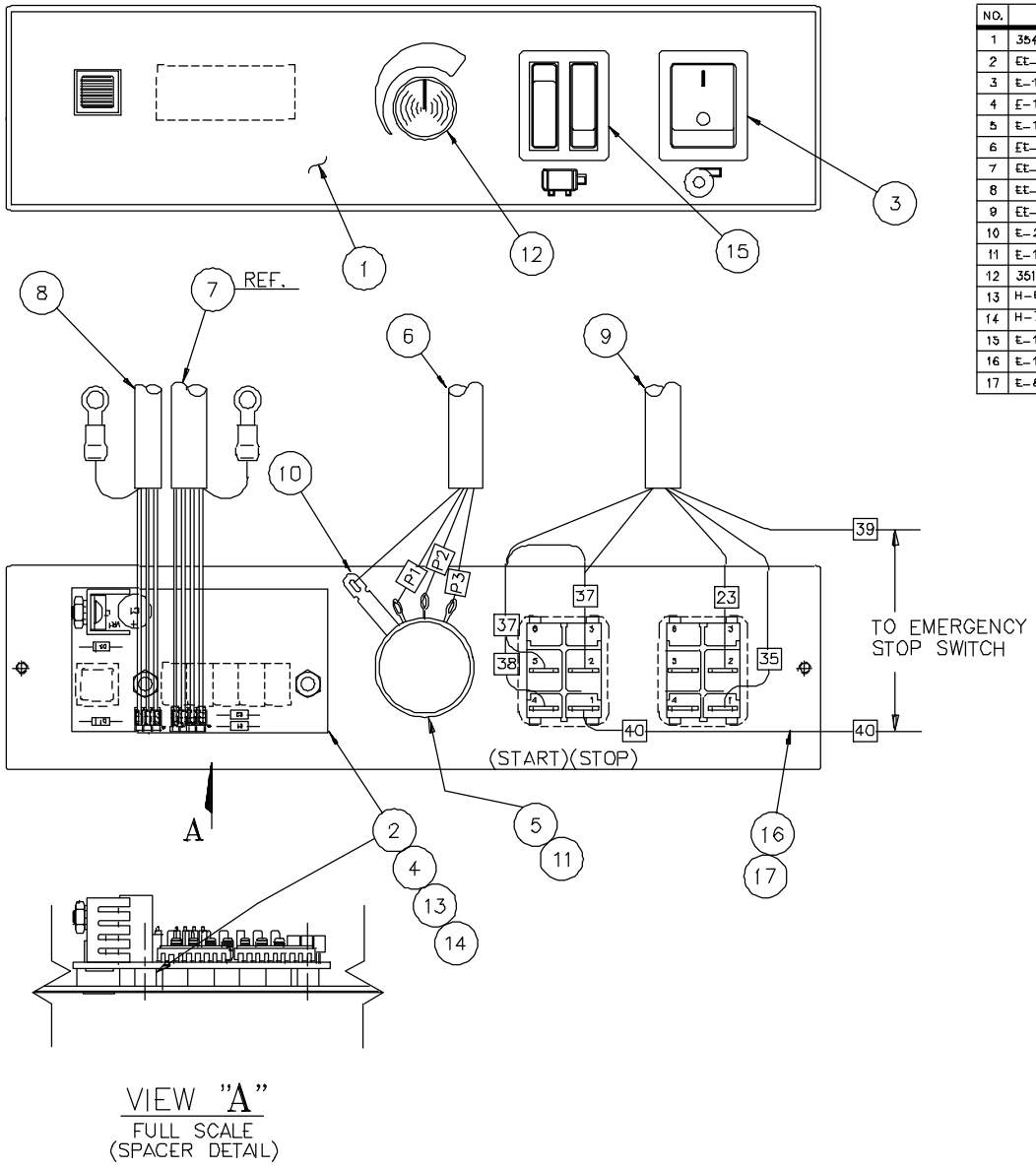
820 CONTROL PANEL ASSEMBLY
EE-2780



NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35459	PANEL – CONSOLE	1
2	E-1214-23	CONN. – 1/4" 90° FULLY INS. QUICK DISC.	1
3	E-1140-11	SWITCH – ROCKER	1
4	E-1140-14	SWITCH – ROCKER	1
5	E-1837	POTENTIOMETER	1
6	EE-2340	CABLE ASM. – POTENTIOMETER	1
7	35469	LABEL – COUNTER, MEDALIST 820	1
8	E-849-R	WIRE – #16 GA. RED MTW 8" LONG	1
9	EE-2660	CABLE ASM. – COMPRES./START/STOP SWITCH	1
10	E-2278	CONNECTOR – GROUND LUG	1
11	E-1453-6	SHRINK TUBING – 1" LONG	3
12	35126-2	KNOB – POTENTIOMETER	1

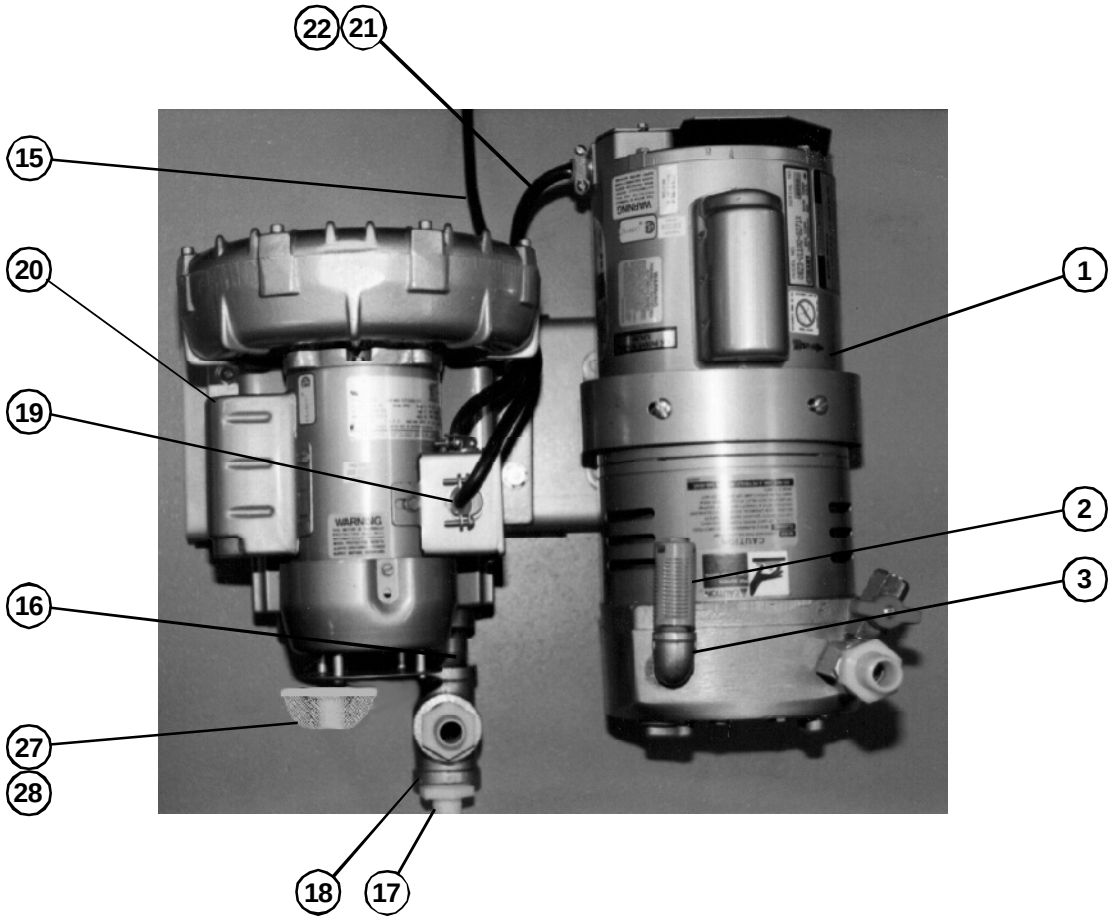
870 CONTROL PANEL ASSEMBLY
EE-2654 REV. 'B'

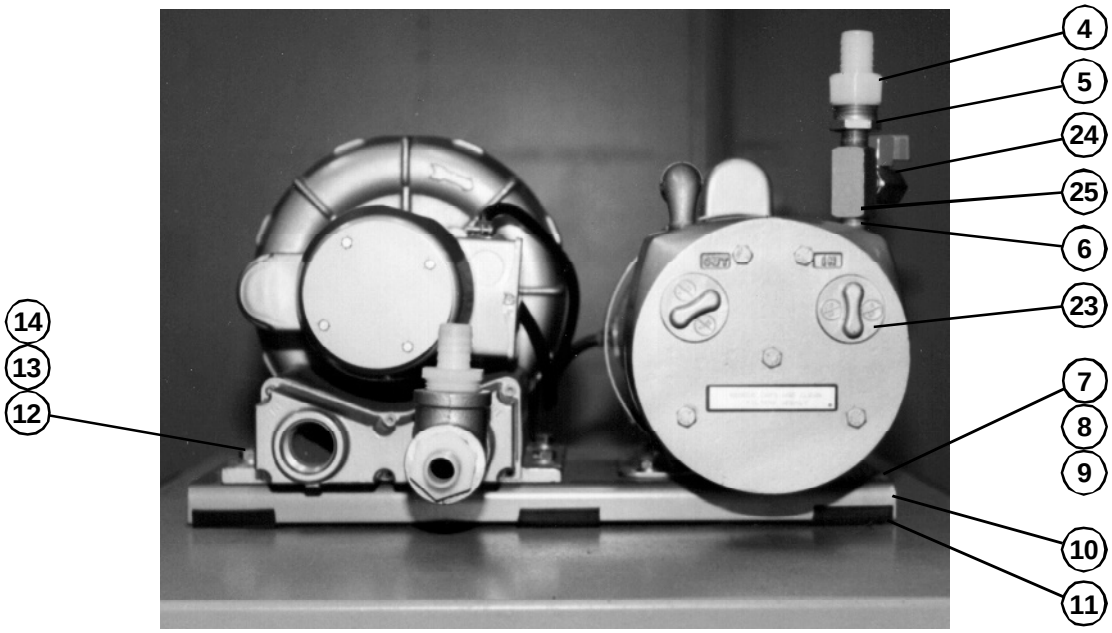


VIEW "A"
FULL SCALE
(SPACER DETAIL)

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35459	PANEL – CONSOLE	1
2	EE-2291-1	P.C.B. ASM – COUNTER BOARD, SMT	1
3	E-1140-11	SWITCH – ROCKER	1
4	E-1152-32	SPACER	2
5	E-1837	POTENTIOMETER	1
6	EE-2340	CABLE ASM – POTENTIOMETER	1
7	EE-2661	ASSEMBLY – PHOTOSENSOR	REF
8	EE-2602	CABLE ASM – TRANSFORMER	1
9	EE-2660	CABLE ASM – COMPRES./START/STOP SWITCH	1
10	E-2278	CONNECTOR – GROUND LUG	1
11	E-1453-6	SHRINK TUBING – 1" LONG	3
12	35126-2	KNOB – POTENTIOMETER	1
13	H-6423-#6	NUT – #6-32 HEX JAM	2
14	H-7324-#6	WASHER – #6 SHAKEPROOF	2
15	E-1140-14	SWITCH – ROCKER	1
16	E-1214-23	CONN. – 1/4" 90° FULLY INS QUICK DISC.	1
17	E-849-R	WIRE – #16 GA. RED MTW 8" LONG	1

120/220 VOLT PUMP ASSEMBLY
PP-270/PP-274





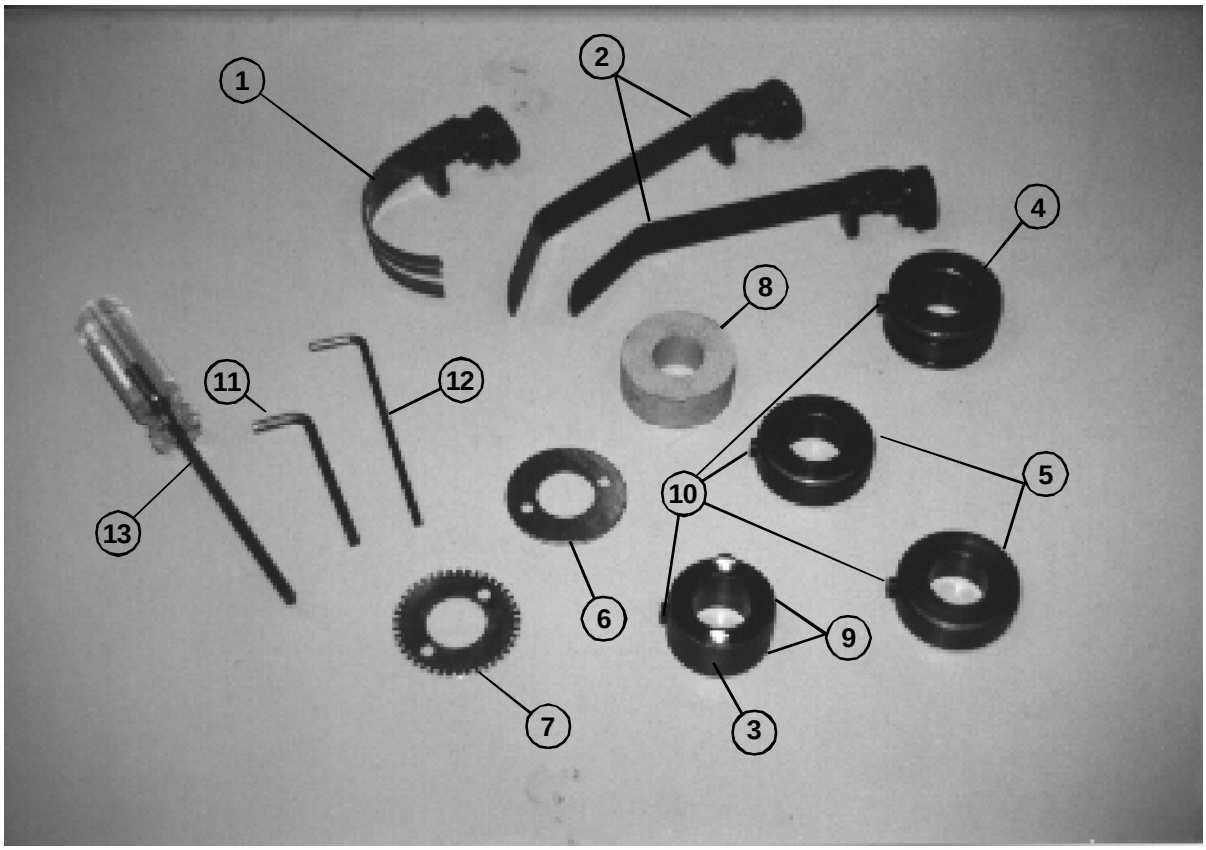
120 VOLT 60 HERTZ PUMP ASSEMBLY
PP-270

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	P-272	PUMP – VACUUM	1
2	P-276	MUFFLER – PNEUMATIC	1
3	H-5511-6	ELBOW – 3/8" STREET	1
4	P-273	ADAPTER – 3/4 HOSE, 3/4 NPT STR. FEMALE	1
5	H-235-2	REDUCER – 3/4 NPT MALE, 3/4 NPT FEMALE	1
6	H-6405-612	NIPPLE – 3/8" CLOSE	2
7	H-6913-506	SCREW – 5/16-18 x 3/4" HEX HD. CAP	4
8	H-7327-10	LOCKWASHER – 5/16" MEDIUM	4
9	H-7321-5	WASHER – 5/16" STANDARD	4
10	35165-1	BASE – PUMP	1
11	35164	FOOT – RUBBER	6
12	H-6913-608	SCREW – 3/8-16 x 1" HEX HD CAP	4
13	H-7327-12	LOCKWASHER – 3/8" MEDIUM	4
14	H-7321-6	WASHER – 3/8" STANDARD	4
15	E-2343	CABLE (with plug)	1
16	H-6405-1612	NIPPLE – 1" CLOSE	1
17	P-210-8	ADAPTER – 3/4 HOSE, 1" NPT MALE STR	2
18	H-289-3	TEE – 1" NPT	1
19	S-1350-16	BUSHING – HEYCO	3
20	E-1223-1	BLOWER – REGENERATIVE	1
21	E-664	WIRE – #16 GA., 10" LONG	1
22	E-1237-1	WIRE NUT – YELLOW	5
23	P-282	FILTER – FELT	2
24	P-278	VALVE – BALL	1
25	H-267	TEE – 3/8" NPT	1
26	P-277	KIT – REPAIR (NOT SHOWN)	1
27	P-102	STRAINER	REF

220 VOLT 50 HERTZ PUMP ASSEMBLY
PP-274

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	P-274	PUMP – VACUUM	1
2	P-276	MUFFLER – PNEUMATIC	1
3	H-5511-6	ELBOW – 3/8" STREET	1
4	P-273	ADAPTER – 3/4 HOSE, 3/4 NPT STR. FEMALE	1
5	H-235-2	REDUCER – 3/4 NPT MALE, 3/4 NPT FEMALE	1
6	H-6405-612	NIPPLE – 3/8" CLOSE	2
7	H-6913-506	SCREW – 5/16-18 x 3/4" HEX HD. CAP	4
8	H-7327-10	LOCKWASHER – 5/16" MEDIUM	4
9	H-7321-5	WASHER – 5/16" STANDARD	4
10	35165-1	BASE – PUMP	1
11	35164	FOOT – RUBBER	6
12	H-6913-608	SCREW – 3/8-16 x 1" HEX HD. CAP	4
13	H-7327-12	LOCKWASHER – 3/8" MEDIUM	4
14	H-7321-6	WASHER – 3/8" STANDARD	4
15	E-2343	CABLE (with plug)	1
16	H-6405-1612	NIPPLE – 1" CLOSE	1
17	P-210-8	ADAPTER – 3/4 HOSE, 1" NPT MALE STR.	2
18	H-289-3	TEE – 1" NPT	1
19	S-1350-16	BUSHING – HEYCO	3
20	E-1223-1	BLOWER – REGENERATIVE	1
21	E-664	WIRE – #16 GA., 10" LONG	1
22	E-1237-1	WIRE NUT – YELLOW	5
23	P-282	FILTER – FELT	2
24	P-278	VALVE – BALL	1
25	H-267	TEE – 3/8" NPT	1
26	P-277	KIT – REPAIR (NOT SHOWN)	1
27	P-102	STRAINER	REF
28	P-212-1	NIPPLE – 1" CLOSE	1

STANDARD ACCESSORIES
AA-11214



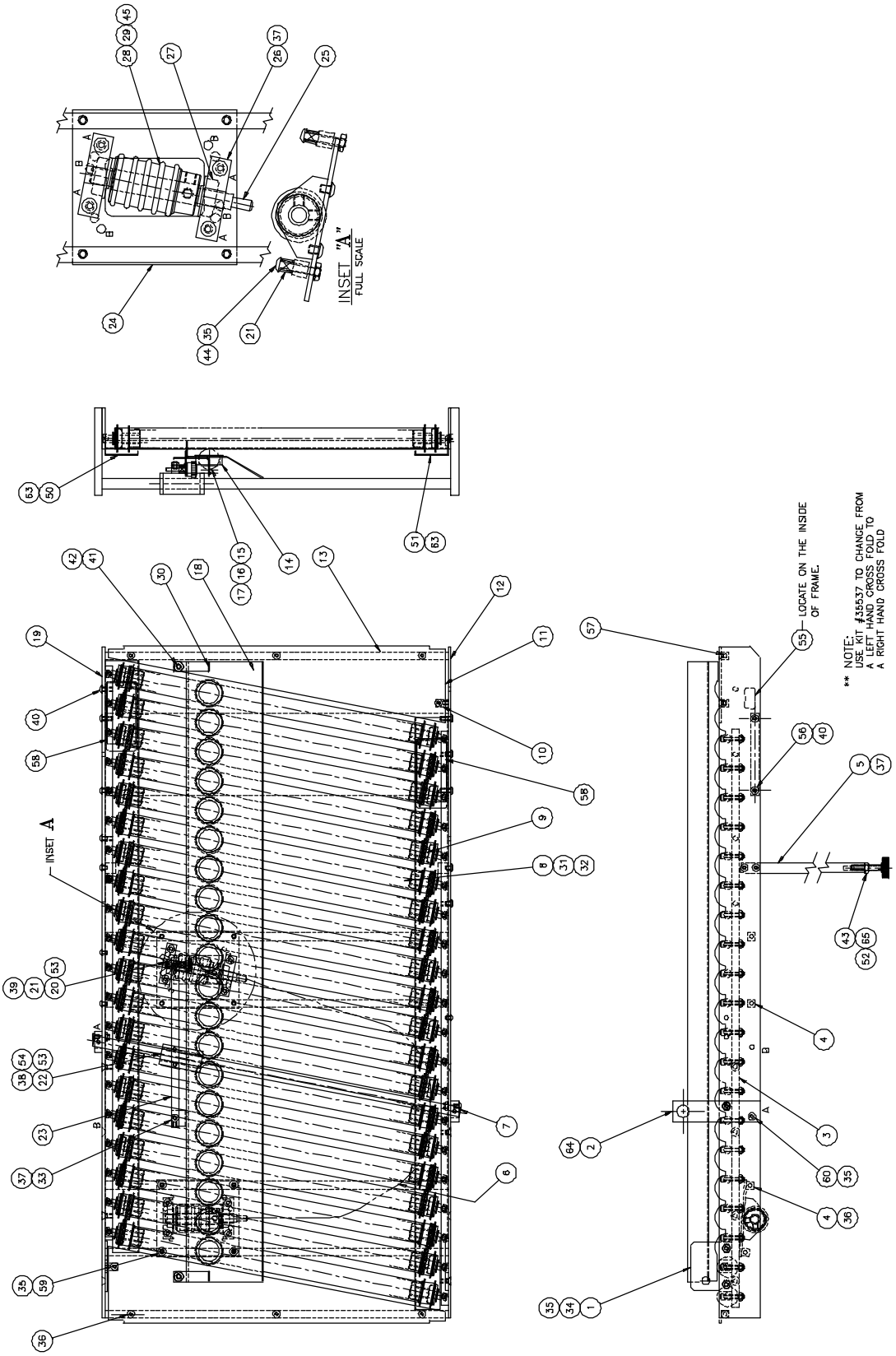
STANDARD ACCESSORIES
AA-11214

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	AA–11210	STRIPPER ASSEMBLY, PERFORATOR	1
2	AA–10538	SPRING ASSEMBLY, STACKER	2
3	10560	BLADE HOLDER	1
4	10561	BLOCK, PERFORATOR	1
5	10562	BLOCK, SCORING	2
6	A–10564	SCORING BLADE, THIN	1
7	A–10570	PERFORATOR BLADE, 41N	1
8	A–10573	TIRE, SCORING (RUBBER)	1
9	H–6923–102406	#10–24 x 3/8" RD HD MACHINE SCREW	2
10	H–6964–504	5/16–18 NC x 1/4 BRASS TIP SET SCREW	4
11	W–137	WRENCH, ALLEN 5/32"	1
12	W–141	WRENCH, ALLEN 1/8"	1
13	W–137–2	WRENCH, 5/32" (SCREWDRIVER HANDLE)	1
14	H–6938–83203	SCREW – #8–32 x 3/16 SOC SET (NOT SHOWN)	1

NOTE:

If desired item #14 replaces knob (item #20, pg 44).

CROSS CARRIAGE ASSEMBLY
35500 REV. 'D'


INSET "A"
FULL SCALE
INSET A
LOCATE ON THE INSIDE OF FRAME.
** NOTE:
USE KIT #35537 TO CHANGE FROM A LEFT HAND CROSS FOLD TO A RIGHT HAND CROSS FOLD

CROSS CARRIAGE ASSEMBLY

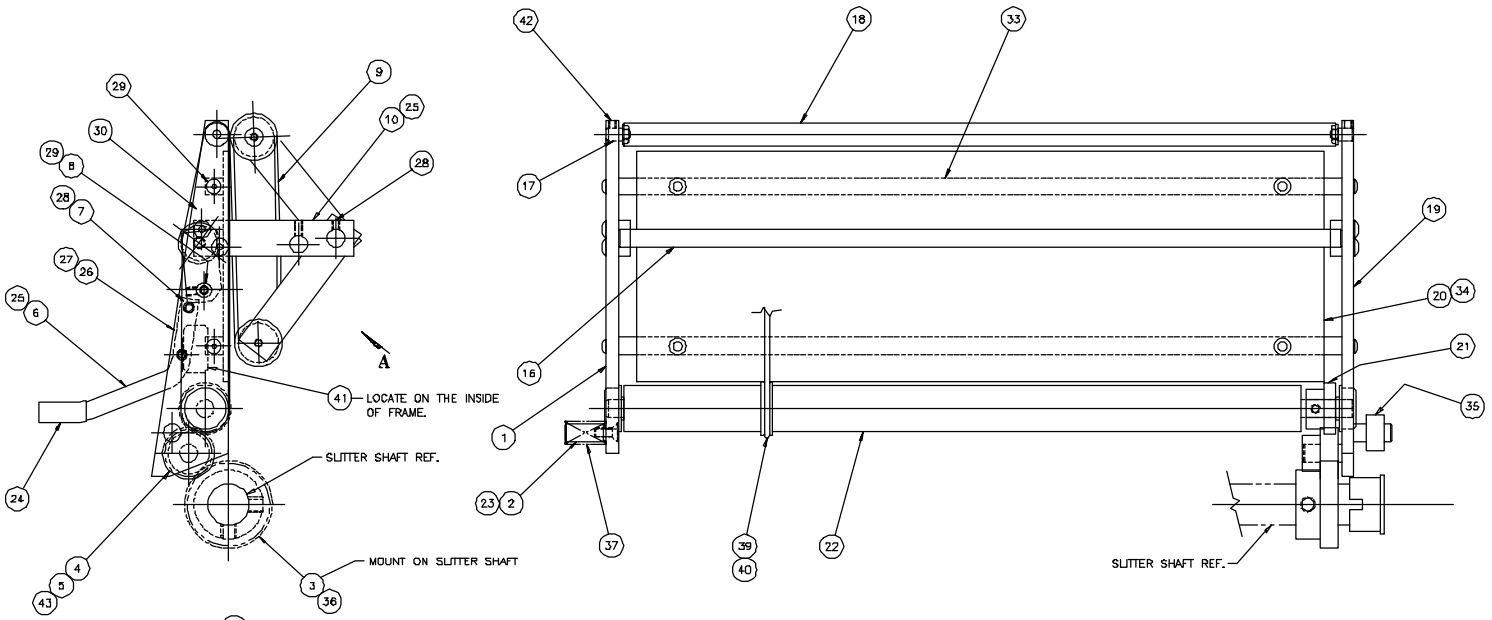
35500 REV. 'D'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35513	PLATE – MOUNT	2
2	35526	BLOCK – MARBLE HOLDER SHAFT MOUNT	2
3	35504	RAIL – ROLLER MOUNT	2
4	35510	TIEBAR	4
5	35529	LEG – CROSS CARRIAGE SUPPORT	2
6	35528	SHAFT – FLEXIBLE	1
7	35527	SHAFT – MARBLE HOLDER MOUNT	1
8	35505	ROLLER ASSY. (ALUMINUM)	20
9	35530	BELT – TIMING	19
10	35512	BLOCK – TAPER PLATE SUPPORT	2
11	35511	TAPER PLATE	2
12	35502	SIDEFRAME – LH	1
13	35105	TIEBAR	2
14	E-1172-20	BUSHING – MARBLE	20
15	A-10634	MARBLE – PLASTIC	20
16	A-10635	MARBLE – GLASS	5
17	A-10636	MARBLE – STEEL	5
18	35515	MARBLE HOLDER ASSY. – LH	1
19	35503	SIDEFRAME – RH	1
20	H-6918-102408	#10-24 x 1" SOC HD SCREW	1
21	35048-12	SPRING – MARBLE ADJUST	5
22	35522	BLOCK	1
23	35521	ARM – MARBLE HOLDER MOUNT	1
24	35523	PLATE – ROLLER DRIVE	2
25	35525	SHAFT – ROLLER DRIVE	2
26	35524	BLOCK – ROLLER DRIVE	4
27	35258-1	BEARING	4
28	35254	PULLEY – SUCKER DRIVE	2
29	35179-1	O-RING	10
30	35536	POLYCORD – 2mm 29-3/4 LONG	1
31	H-6918-83208	#8-32 x 1" SOC HD. SCREW	40
32	H-5247-832	#8-32 FLEX LOCK HEX NUT	40
33	H-6938-102406	#10-24 x 3/8 SOC SETSCREW	1

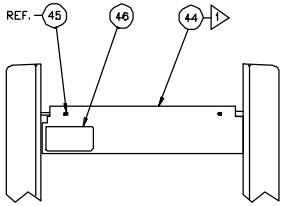
NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
34	H-6909-102404	#10-24 x 1/2 FLAT HD. SOC SCREW	8
35	H-5247-1024	#10-24 FLEX LOCK HEX NUT	16
36	H-6916-83204	#8-32 x 1/2 FLAT HD. SOC SCREW	15
37	H-6910-102403	#10-24 x 3/8 BUTTON HD. SCREW	8
38	H-6910-83205	#8-32 x 5/8 BUTTON HD. SCREW	2
39	H-6425-#10	#10-24 WING NUT	1
40	H-6910-102404	#10-24 x 1/2 BUTTON HD. SCREW	12
41	H-6881-408	1/4-20 x 1/2 HEX SCREW (PLASTIC)	4
42	H-6412-4	1/4-20 HEX NUT (NYLON)	2
43	H-6918-410	1/4-20 x 1-1/4 SOC HD SCREW	2
44	H-6910-102408	#10-24 x 1" BUTTON HD. SCREW	4
45	H-6964-404	1/4-20 x 1/4 BRASS TIP SOC SCREW	6
46	35520	DEFLECTOR – MARBLE HOLDER (NOT SHOWN)	1
47	35538	HOLDDOWN	2
48	35541	INSERT – MARBLE	20
49	11145-2	BLIND RIVET – 1/8	2
50	35531	COVER ASM. – RH ROLLER BELT	1
51	35532	COVER ASM. – LH ROLLER BELT	1
52	8260-1	KNOB	2
53	8260-2	KNOB	2
54	H-6918-102404	#10-24 x 1/2 SOC HD SCREW	1
55	E-1584-36	LABEL	1
56	35125	SQUARING TIE BAR	1
57	H-6910-83204	#8-32 x 1/2 BUTTON HD SOC CAP	7
58	S-1781-15	CAUTION LABEL	2
59	H-6909-102405	#10-24 x 5/8 FLAT HD. SOC. SCREW	8
60	H-6910-102406	#10-24 x 3/4 BUT. HD. SOC. CAP	4
61	H-6449-125	RETAINING RING	20
62	S-1837	MAGNET	2
63	H-6910-83202	#8-32 x 1/4 BUTTON HD SOC CAP	2
64	H-6938-102404	#10-24 x 1/4 SOC SETSCREW	2
65	H-6424-4	1/4-20 HEX JAM NUT	2
66			

TRANSFER ASSEMBLY

35550 REV. 'F'



VIEW "A"
FULL SCALE



REAR VIEW OF MACHINE
1/4 SCALE

NOTES:

1. WHEN USING RIGHT ANGLE TRANSFER ASSEMBLY, REPLACE EXISTING GUARD WITH ITEM #44 AS SHOWN.

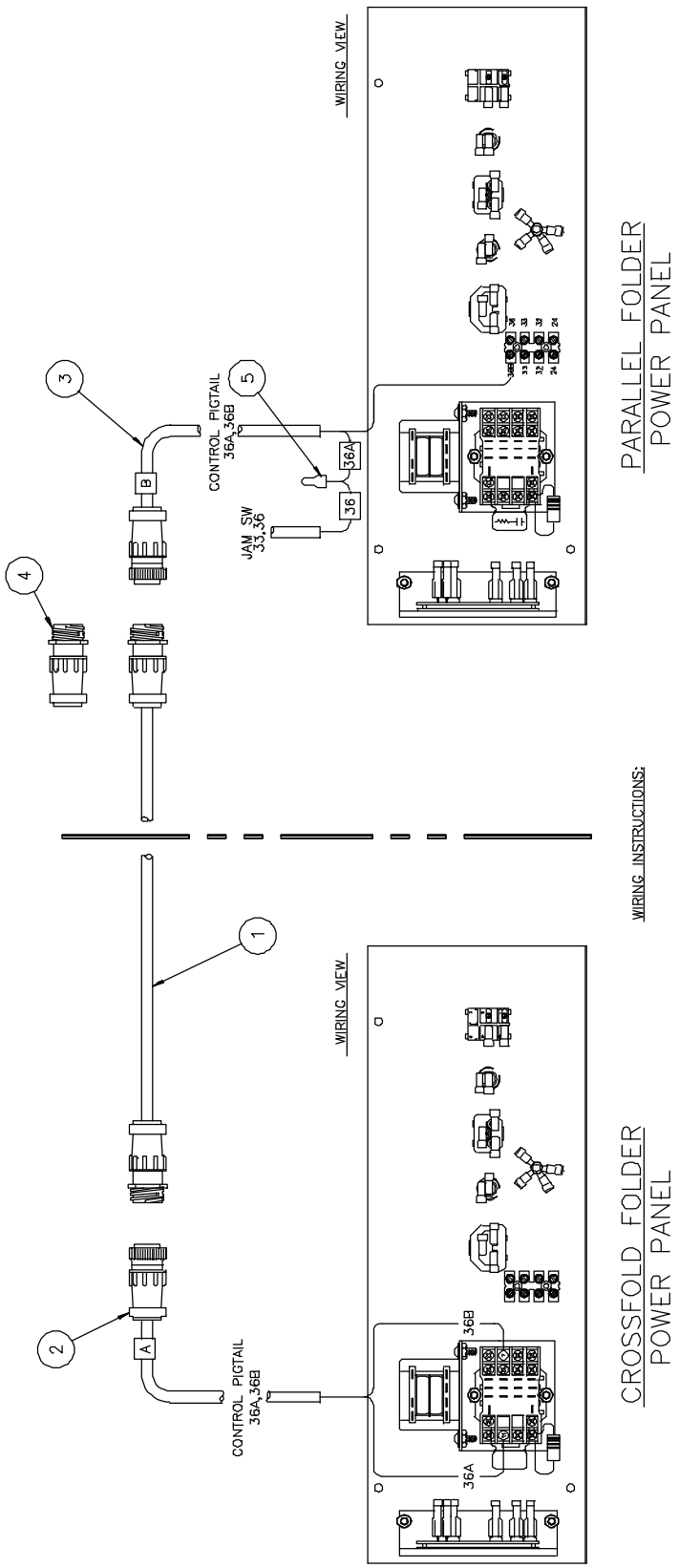
WHITAKER BROTHERS SINCE 1945
800-243-9226

TRANSFER ASSEMBLY
35550 REV. 'F'

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35552	SIDEFRAME ASM – LH	1
2	35561	PIN – MOUNT	3
3	35559	GEAR – 7/8 BORE	1
4	35223–1	GEAR – IDLER	1
5	11288–5	SPACER	2
6	35566	LEG – TRANSFER SUPPORT	2
7	35565	BLOCK – BELT TENSIONER	3
8	35564	SHAFT – BELT TENSIONER	1
9	35572	BELT – HOLDDOWN	3
10	35567	BLOCK – HOLDDOWN	2
11	35569	ARM – HOLDDOWN	6
12	35576	COLLAR – HOLDDOWN	3
13	35570	ROLLER – HOLDDOWN	6
14	35575	SCREW – HOLDDOWN	6
15	11288–27	SPACER	3
16	35568	ROD – HOLDDOWN	2
17	35563	PIN – REAR ROLLER	2
18	35558	ROLLER ASM – REAR	1
19	35554	SIDEFRAME ASM – RH	1
20	35555	PLATE – TOP	1
21	35560	GEAR – FRONT ROLLER	1
22	35556	ROLLER – FRONT	1
23	H–6909–102404	#10–24 x 1/2 FLAT HD. SOC. CAP	2
24	E–1453–1	SHRINK TUBING	2

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
25	H–6910–102404	#10–24 x 1/2 BUTTON HD. SCREW	13
26	35114	ROLLER – GUIDE	5
27	H–5254–504	5/16 x 1/2 SOC SHLD SCREW	3
28	H–6938–83204	#8–32 x 1/4 SOC SETSCREW	7
29	H–6910–83204	#8–32 x 1/2 BUTTON HD. SCREW	2
30	35577	BELT – FLAT	3
31	S–1073–50	RING – RETAINING	3
32	H–6938–102404	#10–24 x 1/4 SOC SETSCREW	3
33	35131	TIEBAR	2
34	H–6909–83204	#8–32 x 1/2 FLAT HD. SOC. SCREW	4
35	A–10644–1	COLLAR – 3/8	2
36	H–6964–504	5/16–18 x 1/4 BRASS TIP SETSCREW	2
37	7927	SPRING	1
38	S–1681	WAVE WASHER	3
39	35571	BELT – TRANSPORT	2
40	35179–1	O RING	4
41	E–1584–37	LABEL	1
42	H–6938–83203	#8–32 x 3/16 SOC SETSCREW	2
43	11288–5	SPACER	1
44	35056–1	GUARD – REAR	1
45	H–6910–83204	SCREW – #8–32 X 1/2 BUT. HD. SOC.	REF.
46	S–1781–16	LABEL – CAUTION	1

CROSSFOLD ELECTRICAL HOOK-UP
K-2670-i



NOTE:
THIS KIT CAN NOT BE USED ON SRA3 MACHINES
WHOSE SERIAL NO.'S ARE 877 AND BELOW.

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	EE-2671	CABLE ASSEMBLY - CROSSFOLD JUMPER	1
2	EE-2672	CABLE ASSEMBLY - CROSSFOLD PIGTAIL	1
3	EE-2673	CABLE ASSEMBLY - PARALLEL FOLDER PIGTAIL	1
4	EE-2674	PLUG ASSEMBLY - PIGTAIL JUMPER	1
5	E-1237-6	WIRE NUT	1
6	K-2670-i	PRINT - WIRING INSTRUCTIONS (PRINT ONLY)	1

CROSSFOLD ELECTRICAL HOOK-UP INSTRUCTIONS

⚠ WARNING: Shock Hazard! Disconnect and lockout the power to both machines before proceeding with the following instructions.

Crossfold Folder Power Panel Connections (Steps 1-4)

1. Remove the power panel of the crossfold machine. (There is enough wire to lay the panel down flat in front of the machine.)

2. From the kit, locate the pigtail labeled “A” (item #2 in the drawing on the opposite page). Insert the wire end of the pigtail through the hole in the top of the power panel housing.

3. Connect the wires to the terminal strip as shown in the CROSSFOLD FOLDER POWER PANEL detail in the drawing on the opposite page.

4. Double check the wiring connections against the drawing and when it is correct, replace the power panel.

Parallel Folder Power Panel Connections (Steps 5-9)

5. Remove the power panel of the parallel machine. (There is enough wire to lay the panel down flat in front of the machine.)

6. From the kit, locate the pigtail labeled “b” (item #3 in the drawing on the opposite page). Insert the wire end of the pigtail through the hole in the top of the power panel housing.

7. Locate the Jam Detector Cable and trace wire #36 to the terminal strip. Remove wire #36 from the terminal strip and using the wire nut supplied in the kit, connect this wire (#36 from the Jam Detector) to wire #36A of the pigtail.

8. Connect wire #36B of the pigtail to the terminal strip at the position from which wire #36 of the Jam Detector was just removed.

9. Double check the wiring connections for the PARALLEL FOLDER POWER PANEL against the drawing on the opposite page and when they are correct, replace the power panel.

Operation - Crossfold System

To run the two machines together as a Right Angle Crossfold System, turn off the power to both machines. Position the two machines together and connect the Crossfold Jumper Assembly (item #1 in the drawing on the opposite page) to the pigtails installed in the power panels.

Turn on the Right Angle Crossfold Unit *FIRST*. (When connected as a Crossfold System, the Right Angle Crossfold unit is the master and must have the power turned on first.) Make any operational setup and adjustments as described in the operating section of this manual.

Operation - Independent Folding Units

To run the two machines independently of each other, disconnect the power and remove the Crossfold Jumper Assembly. Install the Terminator Jumper Plug (item #4, opposite page) to the pigtail of the Parallel Folder. Now the Parallel Unit and the Crossfold Unit may be operated independent of each other (Crossfold Unit does not require a terminator).

⚠ WARNING: Always disconnect the power to both folding units before making jumper or terminator connections.

IMPOSITION MANUAL

Some of the most common impositions are illustrated in the next pages. These appear for reference only and do not imply suitability or practicality.

To assist you in planning any folding job, first fold a "Dummy" by hand. Use the most logical layout to avoid unnecessary folding problems such as air pockets and adverse grain effects. If the stock or imposition is unusual, try running a sample on the folder **BEFORE PRINTING.**

In order to use this imposition guide correctly, it is necessary to refer to the plates in each section as follows:

Parallel Plates - #1 (up fold)
#2 (down fold)
Crosscarrier - #1 (up fold)
#2 (down fold)

When planning a form, check your folded "Dummy" for proper page numbers and correct guide edges.

As illustrated, the sheets are visualized lying on the feed table. The end toward the rollers is marked "**HEAD**." Illustrations of the folded product are shown as delivered to the delivery table.

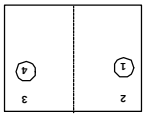
The numbers on the illustrations indicate the page number of the final folded product. Page numbers within circles indicate the page numbers on the side which woukd face down on the feed table. Letters are used instead of numbers for pieces without distinct pages. When folded, letter surfaces will be face-to-face.

NOTE: No responsibility, either direct or assumed, is indicated for errors in these examples - ***Double Check Your Folded Dummy!***

FOUR PAGE

Use Plates: Parallel - #1

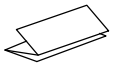
May be folded two or more up and slit apart

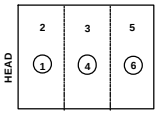


SIX PAGE ACCORDIAN

Use Plates: Parallel - #1
#2

May be folded two or more up and slit apart

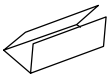


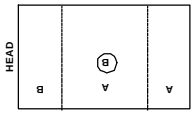


GATEFOLD (Open)

Use Plates: Parallel - #1
#2

May be folded two or more up and slit apart

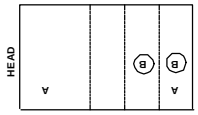




EIGHT PAGE STEP FOLD

Use Plates: Parallel - #1
#2

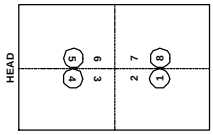
May be folded two or more up and slit apart



THE FOLLOWING LAYOUTS REQUIRE THE USE OF THE CROSSFOLD SYSTEM (DESIGNATED BY 'Right Angle' IN THE ILLUSTRATIONS BELOW).

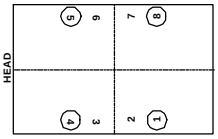
EIGHT PAGE 2 R A OBLONG

Use Plates: Parallel - #1
Right Angle - #1



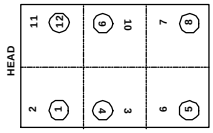
EIGHT PAGE RIGHT ANGLE

Use Plates: Parallel - #1
Right Angle - #1



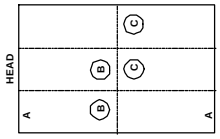
TWELVE PAGE BOOK, SADDLE STITCH

Use Plates: Parallel - #1
- #2
Right Angle - #1



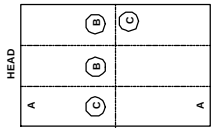
TWELVE PAGE,LETTER FOLD ACCORDIAN

Use Plates: Parallel - #1
Right Angle - #1
- #2



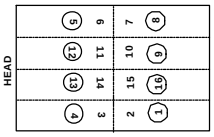
TWELVE PAGE, LETTER FOLD (HEADS OUT)

Use Plates: Parallel - #1
Right Angle - #1
- #2



SIXTEEN PAGE,FOLD

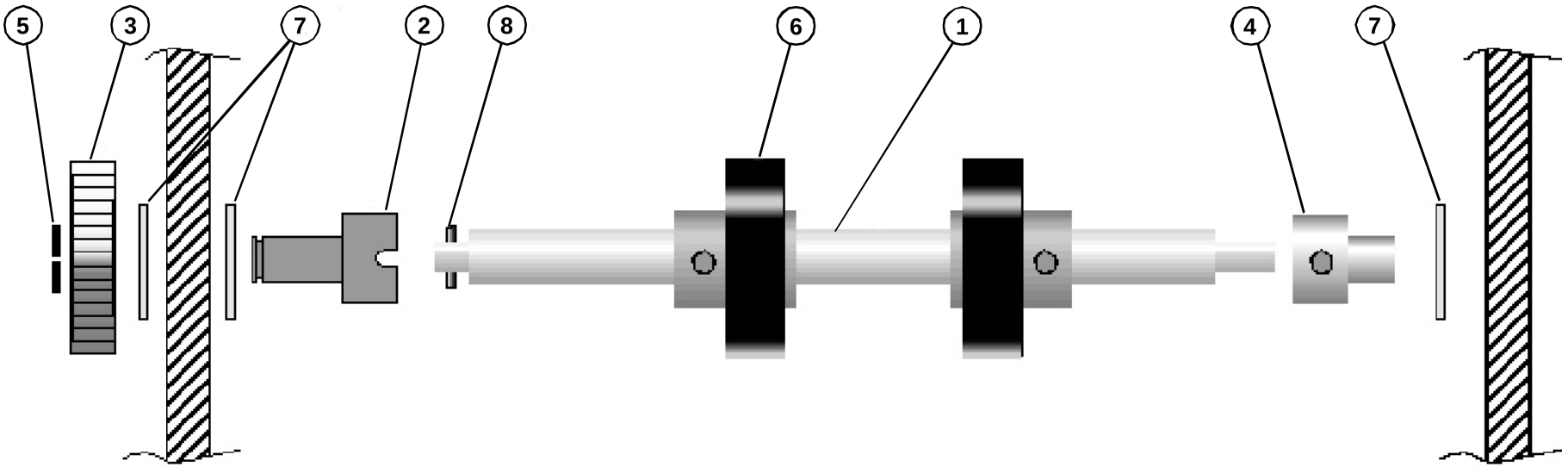
Use Plates: Parallel - #1
Right Angle - #1
- #2



SLITTER SHAFT ASSEMBLY COMPONENTS

(Two Assemblies Used Per Machine)

AA-35009



Roller Bracket Assemblies

(for reference only)

WHITAKER BROTHERS SINCE 1945
800-243-9226

SLITTER SHAFT ASSEMBLY COMPONENTS

(Two Assemblies Used Per Machine)

AA-35009

NO.	PART NO.	DESCRIPTION OF ACCESSORIES	QTY
1	35009	SLITTER SHAFT	1
2	35219–1	PIN, SLITTER ASSEMBLY	1
3	A–11048	GEAR, SLITTER	1
4	35010–1	BUSHING, SLITTER	1
	H–6964–504	SET SCREW, BRASS TIP SOCKET 5/16–18 x 1/4"	ref.
5	S–1073–62	RETAINING RING, 5/8"	1
6	AA–10386	PULLOUT HUB ASSEMBLY	2
	10386	PULLOUT HUB (only)	ref.
	A–10249	RUBBER TIRE (only)	ref.
	H–6964–504	SET SCREW, BRASS TIP SOCKET 5/16–18 x 1/4"	ref.
7	11288–11	WASHER, NYLON	3
8	H–21S–186–1000	PIN, 3/16" x 1" ROLL	1

ROLLER REPLACEMENT REPAIR KITS

870 COMBO ROLLER REBUILD KIT: K-35294

	Qty.	P/n
Combo rollers	4	35055
Roller gears	4	35052
Gear keys	4	H-6121-604
Idle roller bushings	6	A-10257-5
Main roller bushings	2	35029
Sucker wheel belt	2	35113
"O" Ring drive belt	5	35179-1
Out feed tires	4	A-10249
Tech notes	1	MFG-016

870 RUBBER ROLLER REBUILD KIT: K-35293

Rubber rollers	4	35051
Roller gears	4	35052
Gear keys	4	H-6121-604
Idle roller bushings	6	A-10257-5
Main roller bushings	2	35029
Sucker wheel belt	2	35113
"O" Ring drive belt	5	35179-1
Outfeed tires	4	A-10249
Tech notes	1	MFG-016

820 ROLLER REBUILD KIT: K-35298

Rubber rollers	4	35051
Roller gears	4	35052
Gear keys	4	H-6121-604
Idle roller bushings	6	35283
Main roller bushings	2	35029
Roller spring	6	7922
Sucker wheel belt	2	35113
"O" Ring drive belt	5	35179-1
Outfeed tires	4	A-10249
Tech notes	1	MFG-016

NOTE: ROLLER/PLATE GAUGES ARE HIGHLY RECOMMENDED WHEN INSTALLING A ROLLER REBUILD KIT.

ROLLER/PLATE GAUGE KIT: K-35292

Plate gauge	2	A-10471
Spacer bar #3 Roller	1	35289
Tech notes	1	MFG-016

"CHALLENGE WILL NOT ACCEPT RETURN OF SUGGESTED PARTS NOT USED IN A REBUILD"

NOTES